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DEPARTMENT OF PUBLIC SAFETY

Annual Report

Sub-Department of Health

To the Mayor and City Council of Baltimore *for the* Fiscal Year Ended December 31, 1914

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ANNUAL REPORT
SUB-DEPARTMENT OF HEALTH

Report of the Commissioner of Health.

BALTIMORE, July, 1915.

To the Mayor and City Council of Baltimore.

DEAR SIRS:

I beg leave to submit the following statement concerning the work of the Sub-Department of Health for the year ending December 31, 1914.

The mid-year population, estimated in accordance with rules of United States Census Bureau, is 579,593.

I am much pleased to be able to say that the death rate, 18.20 per 1,000, not only is lower than that of the year 1913, but also the lowest that has been recorded since the beginning of vital statistic work in 1875. The following table shows a decline from 24.36 to 18.20 per 1,000 people living, or a gain of 6.16 per 1,000, which seems to be a permanent gain, inasmuch as the death rate has reached 19 per 1,000 only once since the year 1907:

Death Rates Revised According to United States Census Returns, and Intercensal Yearly Increase.

Year.	Total.	White.	Colored.
1875	24.36	22.87	32.63
1876	24.06	22.08	34.64
1877	28.79	26.31	41.96
1878	21.05	19.41	30.86
1879	23.34	21.11	33.09
1880	24.16	22.11	34.76
1881	25.67	22.32	37.99
1882	25.24	23.16	36.16
1883	25.78	23.29	38.91
1884	22.17	20.01	31.97
1885	21.22	19.20	30.17
1886	21.14	19.48	30.04
1887	20.94	18.69	31.45
1888	21.54	19.69	31.56
1889	20.47	18.99	28.52
1890	23.43	21.90	31.61
1891	22.76	20.94	32.56
1892	23.52	22.00	31.78
1893	20.89	19.08	30.70
1894	20.41	18.45	31.00
1895	21.81	19.77	32.83
1896	20.67	18.80	30.81
1897	19.15	17.42	28.46
1898	20.99	18.97	31.89
1899	20.22	18.33	30.37
1900	21.00	18.84	32.65
1901	20.37	18.10	32.64
1902	19.74	17.63	31.14
1903	19.34	17.29	30.48
1904	20.43	18.09	33.21
1905	20.01	17.57	33.40
1906	19.93	17.60	32.75
1907	20.55	18.18	33.64
1908	18.99	16.92	30.44
1909	18.71	16.58	30.53
1910	19.21	17.17	30.60
1911	18.43	16.21	30.85
1912	18.33	16.25	30.00
1913	18.58	16.26	31.64
1914	18.20	16.08	30.18

This means that had the same rate continued as in the beginning there would have died in our city 14,121 people, in-

stead of 10,551, which was the actual number this year—a saving of 3,570 lives. This saving has been more marked amongst the white people than amongst the colored, which is also shown in the table.

There has not been a sufficiently exhaustive study of all of these annual death rates to justify anyone in asserting that this saving of life has been mostly due to any one cause, but a cursory glance at some tables points out clearly that the saving has been very marked during child life.

If we divide the forty years, 1875-1914, inclusive, into eight five-year periods, we find that scarlet fever deaths are as follows:

Five-Year Periods.	Average No. of Deaths per Year.	Average Yearly Population.	Death Rate per 100,000.
1875-79	407	313,366	129.9
1880-84	246	353,525	69.6
1885-89	50	404,651	12.1
1890-94	110	450,008	24.4
1895-99	43	487,222	8.8
1900-04	59	519,443	11.4
1905-09	38	544,281	7.0
1910-14	38	569,541	6.7

This is again shown in the history of diphtheria:

Five-Year Periods.	Average No. of Deaths per Year.	Average Yearly Population.	Death Rate per 100,000.
1875-79	396	313,366	126.4
1880-84	710	353,525	200.8
1885-89	289	404,651	71.4
1890-94	316	450,008	70.4
1895-99	338	487,222	68.8
1900-04	171	519,443	33.0
1905-09	87	544,281	16.0
1910-14	79	569,541	13.9

It seems to us that a still further reduction, of a permanent character, in these two diseases could be brought about by increasing the capacity of Sydenham Hospital to a degree that will actually be protective to the children.

One more illustration is found in the number of deaths of infants under one year of age. These deaths have been considered (after the first three months) to be mostly due to the diseases of the alimentary canal (digestive tract), and that the most common source is found in the food of the infant, which at that age (under one year) is milk.

The death rate under one year of age per 10,000 of population for each semi-decade is as follows:

1875-79	77.2	1895-99	53.1
1880-84	65.6	1900-04	46.5
1885-89	60.3	1905-09	43.1
1890-94	59.7	1910-14	31.9

The proportion of deaths of children at this age will undoubtedly be reduced as we improve the milk supply, especially by having all milk pasteurized before delivery to the consumer. When this is brought about (or even before), pasteurized milk should be provided for the poor.

Water Filtration.

The sanitary work that is now under way in the construction of the water filtration plant and the sanitary sewerage system will still further assist in the reduction of the death rate, although we do not expect this to be suddenly evidenced by a sharp decline, but that it will be distributed over a number of years. We expect the water filter to remove all the water-borne typhoid fever, which has been up to this time controlled and reduced by the alum and hypochlorite of lime treatment. This was commenced in June, 1911. It has been noticed in other cities that the filtration plants demonstrated

their value not only in the reduction of typhoid fever, but also in other water-borne diseases, such as dysentery, etc. We, of course, expect this to occur in Baltimore.

Sanitary Sewerage System.

The rapid development of the sanitary sewerage system is removing physical conditions that are directly and indirectly detrimental to health, but it is practically impossible to determine its exact value. It presents possibilities in the improvement of the home environment that must ultimately produce a further permanent decrease in our death rate. (See report of Plumbing Division.)

Medical Inspection of Schools.

This very important work was begun in 1905 and equipped to its present force of five physicians and five nurses in 1906. The past school year, October, 1913, to June, 1914, has been no exception in the excellent work that has been done by both physicians and nurses. The following tabulated statement shows not only the amount of work done, but also some of the work not done, because of the disproportion in the number of workers to the number of children examined. All children in the parochial schools have been examined each year, but only the first four grades in the public schools. The following table has been constructed according to the reports of the year 1913-14:

	Public Schools.	Parochial Schools.
Children enrolled	40,788	11,875
Children examined	38,028	10,594
Children defective	12,495	2,324

Each child found defective showed *one or more defects,* some of which were incurable, but the great majority were amenable to treatment. A review of results of the year's

work shows in the three classes or divisions, "cured," "improved," "unimproved":

	Cured.	Imp'd.	Unimp'd.
Public schools (white)	3,956	2,309	6,318
Public schools (colored)	273	198	979
Parochial schools	834	335	1,472

The very large number of "unimproved" is due chiefly to the need of nurses to do "follow up" work, which requires visits to homes, individual treatment and visits to dispensaries. This work by the nurses outside of the school buildings necessarily takes much time, as visits are frequently made to homes that are separated by considerable distances.

It seems to us that a very great deal of good could be accomplished by the city establishing "clinics," either in school buildings or at convenient points, to which children could be taken to have their teeth, throats, noses and eyes more carefully examined than is possible in routine school examination and where proper treatment could be given. This is suggested because amongst the poor is experienced the difficulty of overcoming distances to the established dispensaries and the undesirable commingling with adults within dispensary rooms.

It would make our work better in every way to have someone in the field in control of all the work. This would be of advantage because the work in the different groups of schools could be standardized, which probably would lead to the determination of factors in the production of physical defects in children.

Health Wardens.

There has been so much said regarding the health wardens by those who must find fault, and by those not thoroughly informed, that I venture to present one or two facts concerning them.

I imagine that if every effort were made to provide one type and one calibre of physicians to fill the places of health

wardens the result would be a marked difference in ability and temperament, thus producing a considerable range in efficiency. However, the variety of work they are called upon to do and the differences in the amounts of work and territory they are required to cover would produce this or similar results, even though all the physicians measured up to the same scale. The present system prevents the establishing of a fair standard of efficiency as a guide.

I shall call your attention at this time to but one duty of the health wardens that should be changed, namely, sanitary inspection work. We believe that a more efficient arrangement would be to put all this work under a Bureau of Plumbing and Sanitation, with one chief and two assistants. Each of the latter would have in charge the field men—one set of men to look after new plumbing work, the other to look after repairs and nuisances of all kinds. The idea is to specialize the work so that physicians would look to the prevention of disease and plumbers would abate nuisances.

Police Patrolmen.

We are now looking to the development of the idea of making the police patrolmen actual factors in sanitary work. As you know, they have always been of assistance to the Sub-Department of Health, but the individual officers were not made responsible for the cleanliness of their posts. During this year the Board of Police Commissioners issued an order to the patrolmen that they should give their personal attention to the unsanitary conditions due to carelessness of tenants and get immediate results, rather than through the roundabout, inefficient way heretofore followed. Naturally, it will take some time for this plan to be perfected; but when it has, both time and money will be saved and efficiency promoted.

Sydenham.

This hospital for so-called minor infectious or communicable diseases was opened to the public with a capacity for thirty-six patients, for white children only, suffering with scarlet fever or diphtheria. It is calculated that at least three hundred beds will be necessary to meet the demand, if the intention of making the hospital a protection to children is carried out.

The superintendent points out that the total number of children treated this year falls below that of last year (1913) because "in the early part of the year we had an outbreak of diphtheria among the nurses, and it was impossible for us at that time to obtain nurses to substitute for the ill members of our staff."

In the latter part of the year many cases of scarlet fever were refused admission because the wards were already crowded with patients.

The building to be used as the superintendent's residence was finished (but not furnished) in December, 1913, and was occupied by the resident physician and assistant in March, 1914. Part of the building was converted into an administration office.

A very much needed building, to be known as the "Observation Ward," or Ward B, has been almost completed. On January 5, 1915, it was turned over to the Commissioner of Health, who had to use the building in its incomplete condition to meet the scarlet fever situation. This building will be of great value to Sydenham in many ways, but especially in lessening the possibility of cross-infection, which frequently puts a hospital ward temporarily out of commission.

Setting aside the city's need of a larger hospital, it is necessary for me to mention the following requirements in provid-

ing accommodations and facilities in the management of what is now in commission:

1. Enlarged and well-equipped nurses' home.
2. Observation ward (Ward B) to be furnished, screened, painted and properly equipped.
3. Superintendent's building furnished and equipped.
4. Administration office building with quarters for assistant resident physician.
5. Erection of a morgue and chapel.
6. Incineration and fumigation plant.

Quarantine.

After the commencement of the European war in the first week of last August, it looked as though the usual revenue would be greatly reduced. In that month our receipts from inspection fees dropped about five hundred dollars; but much to our surprise and gratification, the subsequent months showed a marked revival, which brought the year to within thirteen hundred dollars of the receipts of last year. The total receipts from all sources in 1914 were $18,512.97, $3,837.03 less than the appropriation for management and maintenance.

During the first part of the year the accommodations for the treatment and care of patients were greatly overtaxed by the large number of citizens who were taken to Quarantine suffering with smallpox. At one time the number of patients was so large that the building constructed for the unvaccinated contacts, or suspects, had to be turned over to white people with smallpox, and the old hospital building used for colored people only. Even then the latter building was overcrowded. If the outbreak of the disease had not at this time reached its climax we should have been compelled to hang out yellow flags within the city, which has not been necessary since 1883.

The growth of our city and its greater importance in trade increase the floating population, both white and colored, which

results in a greater number of people unvaccinated or susceptible to smallpox. We therefore think it wise to urge upon you the necessity for greater accommodations at Quarantine, especially a pavilion hospital building for white people, and the retention of the present structure for colored people only.

Bubonic Plague.

The subject of Quarantine naturally leads to the consideration of bubonic plague, because it is most commonly conveyed from port to port through the agency of rats on ships. Owing to the gradual spread of this disease into many ports it has been considered wise that all ports, especially those of large shipping interests, should make special efforts through their health officers to acquaint themselves with the condition of rodents, especially about the wharves, so that the earlier appearance of the plague may not be missed, and also to carry out methods of building out (rat-proofing) and of eliminating this source of danger to our commerce. We urge this upon your attention as a wise precaution, even though no infected rat be found.

Bureau of Food and Dairy Inspection.

There are now six dairy farm inspectors, an increase of three over last year.

	Farms Visited.	No. of Inspections.
1913	1,099	1,548
1914	1,458	3,820

The above table shows the increased amount of work done. One hundred and sixty of the above farms received two hundred and thirty-one special investigations, which were made because of the high bacterial count of the milk. These special investigations resulted in the disappearance of the trouble from one hundred and forty-one farms, the stopping of shipment

of milk from four farms, and the elimination of milk from one hundred and fifty-six cows from the shipments to Baltimore.

The sanitary conditions of the farms have been greatly improved in many places, also the methods of handling milk. This work has resulted in lessening the amount of milk condemned after its arrival in the city, as compared with that in former years.

We believe that our dairy supervision could be greatly improved by requiring the license of each dairy to be renewed every year and a charge made for the same, which would pay for the necessary force to carry out the work thoroughly.

An effort should be made to remove all slaughter houses that are not equipped with the most modern conveniences for the slaughtering of animals, the protection and preservation of meats, the prevention of foul odors and unsanitary conditions surrounding the places of slaughter.

Another very closely related subject is worthy of careful consideration, namely, the slaughtering of chickens. There are many places where chickens are slaughtered in large numbers, which should be especially supervised. This would be made much simpler and less expensive if special slaughter houses were provided, and so constructed that unsanitary conditions would be improbable.

Tuberculosis Nurses.

This division of our force working against preventable disease has been grappling with an ever-increasing amount of work without a proportionate increase in the number of nurses, which has resulted in each nurse having to look after more than two hundred patients. The following table presents some of the work done by the nurses and at the three dispensaries for tuberculosis cases:

Total number of cases	3,657
Average number of cases per nurse	228.5
Number of patients sent to sanitarium	851
Preliminary reports for fumigation after death	1,110
Preliminary reports for fumigation after removal	2,264
Number of houses fumigated and cleansed	82½%

The three tuberculosis dispensaries are taxed to their capacity.

Total amount of work done in the three tuberculosis dispensaries during 1914:

New patients	789
Positive cases	223
Suspicious cases	289
Negative	277
Total	789
White patients	713
Colored patients	76
Total	789
Sent by—	
Tuberculosis nurses	330
Other nurses	44
Federated Charities	129
Friends	138
Other dispensaries	83
Other physicians	54
Came of own accord	11
Total	789
Old patients returned	1,133
Prescriptions given	1,550
Advised sanitarium	161
Entered sanitarium	66
Advised other clinics	125

It has become more and more evident that lessening and eliminating this disease from our people present a problem of great proportions, and one that will involve great expense. It is also equally evident that the disease can be lessened or eliminated by the same means that have been employed elsewhere. A fundamental part of such work is the segregation of advanced cases. If this is done amongst the poor people who need the city's aid, we accomplish not only the removal

of distributing foci of the disease from amongst highly susceptible people, but a burden from the working members of a family, which relief will increase their warge-earning capacity. This will make it possible to protect the remainder of the family, as the workers will be able to supply more and better food.

A hospital which would accommodate five hundred patients within a short distance of the centre of the city would be a strong factor in the successful fight against this disease.

Communicable Diseases.

The following table shows the number of cases of each disease reported during the year, as compared with the report of 1913:

	1913.	1914.
Smallpox	50	325
Diphtheria	1,309	1,203
Scarlet fever	1,138	802
Typhoid fever	1,163	757
Measles	5,724	466
Mumps	161	602
Whooping cough	290	522
Varicella	595	788
Tuberculosis (pulmonary)	1,541	1,410
Poliomyelitis (infantile paralysis)	2	1
Epidemic cerebro-spinal meningitis	....	3

The supervision of these diseases constitutes one of the most important divisions of our work and should be under the charge of a trained man who could devote his whole time to this work only in all its phases, so that there would be uniformity in the detail work and as little loss of motion as possible. We believe that we could expect a permanent reduction in the number of cases under such management.

While every one of the diseases enumerated above presents features of special interest, the number of typhoid fever cases is of more general interest on account of the construction of

the filtration plant (soon to be put into commission) and the present treatment of the water. Therefore, it will be of interest to study the following table:

Year.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
1909.....	39	23	20	22	23	41	107	217	312	138	61	66	1,069
1910.....	40	25	30	22	31	46	110	473	398	359	251	106	1,891
1911.....	55	31	35	44	56	34	89	280	241	170	104	62	1,201
1912.....	47	28	33	37	30	57	98	198	212	190	77	76	1,083
1913.....	53	40	38	17	31	51	148	314	233	129	65	44	1,163
1914.....	19	12	13	10	31	45	70	134	130	132	97	64	757

This shows that the year 1914 produced the lowest number of cases of this fever for the past six years. Indeed, we can go much farther and say that it is the lowest number since the year 1899.

We finally desire to record our appreciation of the great improvement in our working quarters by the transference of the Department from the old location in the school building of Zion Church on Gay street to the specially reconstructed building of the old Polytechnic School on Courtland street. We believe that our laboratory equipment is second to none, and the greatly improved environment of all our divisions has been appreciated by all and we are convinced has increased every employee's interest in his work.

Yours respectfully,

Nathan R. Gorter, M. D.,
Commissioner of Health.

ANNUAL REPORT

OF THE

ASSISTANT COMMISSIONER OF HEALTH

Report of the Assistant Commissioner of Health.

BALTIMORE, July 1, 1915.

DR. NATHAN R. GORTER,
Commissioner of Health.

DEAR DOCTOR:

I hereby respectfully submit to you the report of the Sub-Department of Health for the year 1914.

I deem it altogether superfluous for me to call your attention to the recommendations that are set forth clearly in the reports of the several active divisions, which have been made as a result of the experience of the workers during the year and which have been referred to in your report to the Mayor and City Council. There is one, however, which I have had more directly under my charge, to which I call your attention, i. e., smallpox.

You probably recall that on November 11, 1912, a case of smallpox was discovered on North Carey street, which came to Baltimore city on November 4, before the appearance of an eruption. When this patient was found he had at least a four-day eruption, and consequently was the starting focus of a small outbreak of smallpox which produced four cases in November, eleven in December, of 1912; and in 1913, twenty-seven cases in January, thirteen in February and one in March. All of these could be traced directly or indirectly to the original case on November 11, 1912. Later in the year 1913 there were two cases in May, one in June and two in July, which I could not trace to the cases above referred to and were apparently fresh imports. Likewise, the same history is for

September, when there were three cases. On the twenty-fourth of December, 1913, there was another case reported, about which I will refer later.

All of the cases above referred to were almost altogether confined to the region at the junction of the Fourteenth, Fifteenth and Sixteenth Wards, amongst the colored poulation. There were about eight cases that were scattered about the city, which developed in the latter part of the outbreak, by which time the special work of the health wardens and extra vaccine physicians was producing its effect. The work of the vaccine physicians was confined as much as possible to the people who had never been vaccinated.

The case on December 24, reported by Dr. Wade and referred to above, was the beginning of another outbreak, which had quite a different history from the outbreak beginning in 1912. This case was in a man living on South Bethel street, who had been recently released from jail. Upon inquiry I found that he was discharged on December 1, and when we found him he had a three-day eruption, so he must have met with a case of smallpox almost immediately after his exit from the jail; but no information could be extracted from him that could lead to the discovery of other cases, although search was made the latter part of December and the first part of January.

On January 10 another case of smallpox was discovered which I could not trace to any other, but about January 25 a young negro came into the Health Department, and upon examination I found him to be suffering with smallpox. He informed me that if he had the smallpox then there were others in the place he came from. We obtained from him the information that the place he had been stopping was 212 Marsh Market Space. There we found other cases of active smallpox, and three that were well of the disease and apparently had suffered with smallpox in the early part of Decem-

ber, but they had not been discovered because they kept close to quarters. On finding this nest of smallpox we believed that we found the origin of the case of December 24. The lateness of the finding, however, convinced us that in all probability we would have trouble, and the record of the year clearly shows the most stubborn fight against smallpox we have had since 1882 and 1883, and we cannot help but believe that the large amount of vaccination that was done during the winter of 1912-1913 was greatly responsible for the prevention of an epidemic in the first part of 1914. We find that the cases developed by months as follows: January, 29; February, 82; March, 143; April, 44; May, 15; June, 11; July, 1; August, none; September, none; October, none; November, none; December, none. A comparison of the maps showing the outbreaks of 1912 and 1913 and that of 1914 shows that in the latter year the cases were scattered all over town, while in the former they were practically confined to a comparatively small area. We believe that this was principally due to the fact that the focus in 1912 was found early, while the focus in 1914 was found later, when other foci had already been developed.

My reason for giving the above hurried account of the two years is:

First—To call attention particularly to the month of March, when we had 143 cases, which, added to those who were already in the hospital from February, taxed our capacity to the utmost, and, indeed, to such a degree that the detention house had to be converted into a hospital.

Second—Our city is growing rapidly; the floating population increasing, which increases the number of unvaccinated people, thus presenting a fertile field for smallpox to develop when once introduced. In all probability, therefore, we will have from time to time outbreaks that while they do not amount to epidemics yet they do, or will, tax our capacity for caring for them at Quarantine; then it will be incumbent upon us to

use the houses within the city as hospitals and put out yellow flags. This is a condition to be avoided at all hazards. It can be done, in my judgment, by increasing the capacity of the accommodations at our Quarantine Station, and it has been suggested by the Quarantine officer (Dr. Richardson) that we convert the present hospital into one for colored people and build another pavilion for white people. This should be done as soon as is practicable.

Yours respectfully,

C. Hampson Jones,
Assistant Commissioner of Health.

TABLES

Medical Examination of

Public and Parochial Schools

MEDICAL INSPECTION OF SCHOOLS.

The following shows the tabulated work done by the medical inspectors and the nurses. The recommendations given by the physicians and nurses remain the same as of last year.

The fundamental idea seems to be that the further development of the school work depends upon the increase of nurses two or threefold.

MEDICAL EXAMINATION OF PUBLIC SCHOOLS.

TABLE NO. 1—*Showing Total Defects of Children in Each School Examined by Dr. H. Warren Buckler and Miss Olivia C. Dawson.*

DEFECTS.	School 1.	School 4.	School 9.	School 10.	School 12.	School 22.	School 28.	School 29.	School 33.	School 34.	School 35.	School 70.	School 72.	School 76.	School 84.	School 92.	School 95.	School 106.	School 109.	Total.
Ear—																				
Deafness	1	2	1	2	5	6	....	1	1	5	1	6	1	6	3	....	....	1	....	42
Otitis media	1	1	....	1	6	3	....	1	1	4	....	2	....	3	1	....	1	2	....	27
Otorrhœa	....	....	....	....	....	....	....	....	....	....	....	....	....	1	1	....	....	....	....	2
Eye—																				
Blepharitis	2	7	2	4	4	6	2	....	3	8	....	4	2	2	1	3	4	5	2	61
Conjunctivitis	...	1	....	....	....	1	....	....	....	1	....	....	....	....	....	....	....	13	....	16
Eye strain	16	32	18	26	27	50	24	17	18	35	15	35	17	37	18	18	22	39	36	500
Opacity	1	1	....	....	3	....	1	....	....	....	1	1	2	1	1	....	....	....	3	15
Strabismus	2	5	2	1	5	9	5	....	5	3	5	2	2	3	2	4	2	3	....	60
Keratitis	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	19	....	19
Scalp—																				
Alopecia	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1	....	1
Pediculosis	6	24	23	5	18	9	....	9	3	5	7	8	....	5	3	6	8	....	....	139
Ringworm	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	6	6	13
Mouth—																				
Teeth (defective)	59	48	69	52	47	51	35	27	43	61	37	45	11	60	53	25	42	58	45	868
Tongue-tie	1	2	....	3	2	4	....	....	....	....	....	....	....	....	....	....	....	1	....	13
Nose—																				
Adenoids	43	64	60	53	104	66	43	43	43	94	43	65	15	62	78	56	47	11	6	996
Rhinitis	14	28	38	21	78	59	....	....	....	36	....	....	3	....	....	....	23	72	27	399

Nervous System—																				
Epilepsy						1		1							3	1				6
Chorea		1	1	2	4	1	1		1	1	1	1	1		2				1	18
Mental deficiency	13	7	7	17	23	13	4	7	2	9	16	11	3	11	21	5	4	9	8	190
Paralysis (infantile)	1					4			1	2										8
Skin—																				
Eczema					1						1									2
Impetigo	5	5		2	1		3	1	2	1	4	3		12	4			1		43
Ringworm												2			1		1	2	14	20
Scabies		1													2					3
Throat—																				
Pharyngitis							3													3
Tonsils (enlarged)	31	45	49	28	68	65	33	37	38	52	32	54	10	39	57	47	35	33	14	767
Miscellaneous—																				
Adenitis		5	1		6				2					5			1	11	2	33
Enuresis									2						3					5
T. B. of spine							1				1	1						1		4
T. B. of joints						1														1
T. B. of lungs					1			1												2
Deformities (rachitic)																		10		10
Deformities (spine)		1																		1
Malnutrition	10	21	26	14	49	26	21	11	12	33	12	20	4	33	39	7	19	23	11	391
No. of children enrolled	306	480	419	504	629	664	402	306	427	589	364	586	213	539	638	437	117	692	406	9,018
No. of children examined	298	454	370	455	601	619	391	277	405	540	356	572	179	557	610	420	384	615	331	8,434
No. of children defective	93	119	123	123	220	216	83	84	91	167	89	133	44	133	191	106	113	144	93	2,365
No. of children excluded	1	5	3	3	4	2		1		1				2	4		2	2		30
No. of children ordered vaccinated	3		5							1			1	3			10		2	25

MEDICAL EXAMINATION OF PUBLIC SCHOOLS.

TABLE NO. 2—*Showing Total Defects of Children in Each School Examined by Dr. Arthur L. Fehsenfeld and Miss M. A. Gorter.*

DEFECTS.	School 11.	School 15.	School 19.	School 30.	School 48.	School 59.	School 60.	School 62.	School 63.	School 64.	School 65.	School 67.	School 68.	School 75.	School 78.	School 81.	School 86.	School 96.	School 98.	School 100.	School 118 Branch.	Total.
Ear—																						
Deafness	2	1	1	1	....	2	3	5	....	1	4	....	3	....	1	....	4	3	1	2	....	34
Otitis media	....	....	....	....	....	....	....	....	....	....	....	....	1	....	....	....	1	1	....	....	....	3
Otorrhœa	....	....	1	....	....	....	3	....	....	....	....	....	2	....	....	....	2	3	....	....	....	11
Eye—																						
Blepharitis	7	3	2	10	2	2	14	10	3	3	2	8	4	1	7	9	9	13	3	2	....	114
Conjunctivitis	....	....	....	....	....	....	1	....	....	....	....	....	1	....	....	....	....	....	....	....	....	2
Coryza	1	....	2	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	3
Eye strain	23	19	7	8	2	6	39	27	12	14	5	11	16	5	12	19	25	24	16	10	3	303
Opacity	1	1	....	....	....	....	1	....	1	....	....	1	....	....	....	....	1	....	....	1	1	8
Strabismus	6	3	....	....	1	2	5	6	3	....	1	....	5	2	2	....	4	13	2	2	1	58
Stye	1	....	3	4	1	....	....	2	1	....	1	....	2	....	....	....	....	3	1	....	....	19
Tarsal tumor	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1	....	....	....	....	....	1
Blind in one eye	1	....	1	....	....	....	....	1	....	....	....	....	1	....	....	1	....	....	....	....	....	5
Tear duct obstructed	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1	....	....	....	....	....	1
Scalp—																						
Alopecia	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1	....	....	....	1
Pediculosis	43	22	5	17	....	1	20	27	1	....	12	5	17	2	2	29	8	93	75	4	....	383
Ringworm	....	....	....	....	....	1	....	....	....	....	....	....	1	....	....	....	....	1	....	....	....	3
Seborrhœa	2	....	....	....	....	1	2	6	....	....	2	....	....	....	....	1	....	....	....	....	....	14
Mouth—																						
Teeth (defective)	19	5	9	57	7	2	76	19	30	5	4	7	14	5	11	10	47	15	21	7	....	370
Tongue-tie	1	....	....	....	....	....	3	2	....	....	1	....	....	....	....	....	....	1	....	....	....	8
Cleft palate	....	....	....	....	....	....	....	....	....	1	....	....	....	....	1	....	....	1	....	....	....	3
Pyorrhœa alveolar	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1	....	....	....	....	1
Nose—																						
Adenoids	20	17	21	35	3	9	50	50	38	27	7	21	40	1	23	18	37	43	29	15	3	507
Rhinitis	5	5	1	10	....	....	7	7	4	....	2	4	3	....	6	1	2	11	11	2	....	81
Deformities	....	....	....	....	....	....	....	....	....	....	....	....	1	....	1	....	....	....	....	....	....	2

Nervous System—																					
Epilepsy								1					1					1			3
Chorea								1								1		1			3
Mental deficiency	1	1	1	7			5	3	1	2	4		3			1	3	1		1	34
Paralysis (infantile)				1			3	2			1				2	1		1		1	12
Speech imperfect							2	2							1					1	6
Habit spasm													1								1
Hemiplegia																		1			1
Skin—																					
Acne							1					1	1			1			2		6
Eczema	1					2		1			1	1			3	1	1	2			2 15
Impetigo	3		2	2			4				2	5	6			3		9		1	37
Ringworm													1							9	10
Scabies																		2	2		4
Ichthyosis				1																	1
Throat—																					
Pharyngitis										20		7									27
Tonsils (enlarged)	56	66	43	46	3	17		76	67	34	59	42	76	9	47	33	105	86	69	54	19 107
Tonsilitis										2					7						9
Miscellaneous—																					
Adenitis	7	10	31	10	1	2		14	11		11	2	12		4	3	9	27	19	2	175
Enuresis		1	1					4						1			1	1	3		12
T. B. of spine				2				1												1	1 5
T. B. of joints								2													2
Deformities (rachitic)																	1			4	5
Malnutrition	6	9	12	9		2		23	4			5	6		5	18	10	17	21	8	155
Anæmia	5	2										3	2		4	2	4	1			23
Nervous							1	2					2				1	1			7
Diphtheria											2										2
Hare-lip																	1				1
No. of children enrolled			373		37	177			487		472	464		111			643			558	*3,322
No. of children examined			326		35	149			406	1	453	450		100		477	596			333	*3,325
No. of children defective			94		15	35	271		128	60	212	85	150	25	115	110	204	294	205	102	25 *2,130
No. of children excluded			2				3					1		1		4		15	2	1	* 29
No. of children ordered vaccinated			21			3	36		36	29	5	37	47	1	23	18	45	79	5	25	4 * 414

*Incomplete.

MEDICAL EXAMINATION OF PUBLIC SCHOOLS.

TABLE NO. 3—*Showing Total Defects of Children in Each School Examined by Dr. Henry B. Kolb and Mrs. H. E. Knorr.*

DEFECTS.	School 2.	School 3.	School 6.	School 7.	School 8.	School 23.	School 24.	School 25.	School 26.	School 27.	School 38.	School 40.	School 42.	School 43.	School 47.	School 73.	School 77.	School 83.	School 93.	School 97.	School 105.	School 108.	Total.
Ear—																							
Deafness	....	....	....	....	....	1	....	....	....	....	....	....	....	1	....	....	....	1	....	....	....	....	3
Otitis media	....	3	1	....	2	1	2	2	....	....	....	....	....	1	....	....	....	1	2	1	....	....	16
Otorrhœa	....	3	1	....	2	1	2	2	....	....	....	....	....	1	....	....	....	1	2	1	....	....	16
Cerumen	....	....	....	....	....	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1
Eye—																							
Blepharitis	6	9	2	1	8	13	8	9	13	7	3	4	1	16	7	10	4	18	13	4	1	....	157
Conjunctivitis	1	....	....	....	....	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	2	....	4
Eye strain	16	5	10	....	1	6	4	2	3	4	2	5	2	12	12	2	....	1	20	2	1	....	110
Opacity	1	....	1	....	....	....	1	1	....	....	1	1	....	....	1	....	....	....	....	....	....	....	7
Strabismus	3	9	8	....	....	3	6	4	1	3	3	3	....	5	1	6	2	....	3	1	1	....	62
Stye	2	2	....	....	....	1	2	1	1	1	....	....	1	1	1	1	1	1	....	....	....	....	16
Ptosis	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1	....	....	1
Scalp—																							
Pediculosis	69	40	30	....	49	37	23	67	47	24	3	11	5	79	15	69	1	6	104	20	....	....	699
Seborrhœa	....	....	....	....	....	....	....	....	....	....	1	....	....	....	1	....	....	....	....	....	....	....	2
Porrigo	....	....	1	....	1	....	1	....	1	....	....	....	....	....	....	....	....	....	....	....	....	....	4
Mouth—																							
Teeth (defective)	48	23	14	3	46	46	34	8	24	22	8	9	1	75	6	64	5	6	100	16	20	3	581
Nose—																							
Adenoids	85	62	59	3	55	83	74	68	25	56	20	11	1	67	20	74	20	26	92	16	42	19	978
Rhinitis	32	31	18	....	20	21	28	53	20	5	8	1	....	42	1	37	....	1	49	6	8	6	387
Deformities	....	....	....	....	....	....	....	....	1	....	....	....	....	....	....	....	....	....	....	....	....	....	1
Nervous System—																							
Chorea	....	....	....	1	....	....	....	....	....	....	....	....	....	....	1	1	....	....	....	....	....	....	3
Mental deficiency	....	1	....	....	2	....	....	....	....	1	....	....	....	....	....	1	....	....	1	....	....	....	6
Paralysis (inf't'le)	2	....	....	....	....	....	1	....	....	....	1	....	....	....	1	....	....	....	1	....	....	....	6
Paralysis (facial)	....	....	....	....	....	....	....	....	....	....	....	1	....	....	....	....	....	....	....	....	....	....	1
Defective speech	....	....	....	....	....	....	....	....	....	....	3	....	....	....	....	....	....	....	....	....	....	....	3

Skin—																							
Acne																			1				1
Ecthyma	2	5	3			2	7	3	1		1			2		2	1		2				31
Eczema								1			1							2					4
Impetigo					1																		1
Ringworm											1							1	2		1	1	6
Scabies	2							1							1						1		5
Ichthyosis					1																		1
Throat—																							
Tonsils (enlarged)	85	62	59	3	55	79	74	68	25	56	19	11	1	67	20	74	20	26	92	15	42	19	972
Tonsilitis					1					1													2
Miscellaneous—																							
Adenitis	1	5	1		2	1	4	1	2	3				1	1	2	1	2		4			31
Enuresis						1		1															2
T. B. of spine		3					2									1							6
T. B. of joints											1			1									2
T. B. of lungs	2	2				3		5	1	5			1	2	1	1	1	2	3		2	1	32
Deformities (spine)		1	1															1					3
Malnutrition		2			6	1	8	1	2	9	2			1		5		3	1	1	2		44
Wry neck		2																					2
Furuncle		2	2												1								5
Heart defective							1	1		1													3
Anæmia																			1				1
Hydrocephalus																1							1
Cyst							1										1						2
Thyroid enlarged								1															1
Scarlet fever									1														1
Warts										2													2
No. of children enrolled	935	834	542	44	588	590	877	769	438	530	241	209	94	805	197	758	200	359	941	305	467	182	10,905
No. of children examined	880	799	534	42	584	588	861	769	438	520	240	209	94	795	174	750	180	359	941	302	425	173	10,657
No. of children defective	258	192	149		180	203	201	248	128	135	57	42	11	258	64	232	35	60	328	59	74	29	2,943
No. of children excluded	5	4	2		2	2	4	5	8	1	2			23	1	13		1	13	2	2	1	92
No. of children ordered vaccinated	24	57	52		7	64	42	76	1	16	15	5	17	3	19	6	14	17	14	1	33	19	488

MEDICAL EXAMINATION OF PUBLIC SCHOOLS.

TABLE No. 4—*Showing Total Defects of Children in Each School Examined by Dr. A. K. Bond and Miss Virginia B. Lorentz.*

DEFECTS.	School 13.	School 37.	School 50.	School 51.	School 53.	School 54.	School 55.	School 56.	School 57.	School 71.	School 74.	School 83.	School 85.	School 99.	School 115.	Total.
Ear—																
Deafness	3	1	1	2	.....	.....	4	4	1	.....	2	1	1	5	.....	25
Otorrhœa	1	.....	.....	.....	.....	.....	.....	1	.....	1	.....	2	1	.....	.....	6
Eye—																
Blepharitis	22	22	6	11	11	10	26	3	7	10	14	28	9	40	2	221
Blindness (one eye)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	1
Conjunctivitis	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	1
Eye strain	22	7	2	11	7	9	20	5	1	20	2	16	23	14	2	161
Strabismus	1	3	.....	.....	.....	.....	1	.....	.....	2	.....	1	2	2	.....	12
Stye	1	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	2	.....	1	.....	5
Ptosis	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	1	.....	.....	.....	2
Nystagmus	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	1
Scalp—																
Pediculosis	55	44	9	26	20	28	50	5	5	35	17	59	31	103	2	489
Ringworm	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	1
Mouth—																
Teeth (defective)	26	21	.....	11	12	14	22	7	9	5	28	41	67	79	.....	342
Nose—																
Adenoids	73	52	11	31	18	26	58	13	9	26	23	73	35	76	9	533
Rhinitis	.....	3	.....	.....	2	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	6

Nervous System—																
Epilepsy													1			1
Mental deficiency		1					2	2		14	1	3	1	1		25
Defective speech												1				1
Skin—																
Acne												1				1
Eczema		1								3		2		2		8
Impetigo			2		1											3
Ringworm							1									1
Scabies						1	1									2
Furunculosis													2			2
Throat—																
Tonsils (enlarged)	80	65	13	45	30	35	66	15	13	30	34	99	40	94	12	671
Tonsilitis												1				1
Miscellaneous—																
Adenitis	1	4		1			1				1		10	5		23
T. B. of spine											1					1
Deformities (spine)												1	1			2
Filth							2	1	1	2				1		7
Malnutrition	2	2		2		1						5	4	4		20
Varicella						1										1
Laryngitis							1									1
Limp													2			2
Wry neck														1		1
No. of children enrolled	765	495	210	490	395	508	751	185	160	231	505	840	601	986	167	7,289
No. of children examined	738	495	154	478	361	479	747	185	152	231	446	817	567	901	130	6,881
No. of children defective	239	204	39	104	81	86	253	41	31	93	110	237	195	323	24	2,060
No. of children excluded	1	2				3	3	2				3	3	6		23
No. of children ordered vaccinated	49	21	5	22	11	22	25	6	6		28	21	9	44	8	277

MEDICAL EXAMINATION OF PUBLIC SCHOOLS.

TABLE No. 5—*Showing Total Defects of Children in Each School Examined by Dr. Richard A. Urquhart and Miss Agnes P. Kloman.*

DEFECTS.	School 5.	School 14.	School 16.	School 20.	School 21.	School 31.	School 32.	School 39.	School 45.	School 58.	School 61.	School 79.	School 80.	School 94.	School 103.	School 107.	School 110.	School 111.	School 112.	School 113.	School 116.	School 118.	Total.
Ear—																							
Deafness	....	....	1	3	3	1	1	1	....	2	....	....	....	....	....	....	3	....	2	1	....	....	18
Otorrhœa	2	....	1	3	....	....	....	....	....	1	....	....	....	2	....	3	....	....	....	....	....	....	12
Eye—																							
Blepharitis	....	....	....	....	....	....	3	....	....	....	....	....	....	....	2	....	....	....	....	2	....	....	7
Cataract	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	2	....	....	2
Conjunctivitis	....	....	....	....	....	....	....	....	....	....	1	....	....	....	....	....	....	....	....	....	....	....	1
Eye strain	24	3	15	32	8	14	6	5	5	7	13	7	4	17	17	27	35	30	34	22	7	17	349
Strabismus	3	....	....	3	2	....	1	1	....	1	....	....	1	4	....	1	4	....	7	2	....	....	30
Opacity	....	....	1	2	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	3
Stye	....	....	2	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	2	....	....	....	4
Scalp—																							
Pediculosis	52	17	83	29	37	35	13	24	6	5	25	34	10	60	8	8	17	6	8	3	....	....	480
Ringworm	....	1	....	....	....	....	....	....	....	....	....	....	....	....	8	15	....	16	28	4	....	6	78
Seborrhœa	....	1	....	....	....	2	....	....	....	....	....	....	....	....	....	2	....	....	....	....	....	....	5
Mouth—																							
Teeth (defective)	78	31	58	123	22	53	42	24	16	25	38	32	38	96	78	110	60	74	99	51	18	65	1,231
Cleft palate	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1	....	....	....	....	....	....	....	1
Alveolar abscess	....	....	....	....	....	....	....	....	1	....	....	....	....	....	....	....	....	....	....	....	....	....	1
Nose—																							
Adenoids	32	12	29	36	19	13	17	7	5	8	6	10	5	35	10	22	21	41	41	17	....	15	401
Nervous System—																							
Epilepsy	....	....	....	4	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	4
Mental deficiency	....	....	....	....	....	3	....	....	....	....	....	....	....	....	....	2	2	....	18	....	....	....	25
Paralysis (inf't'le)	2	1	2	6	9	....	1	....	....	....	....	....	....	1	....	....	2	....	....	....	....	....	24

Skin—																							
Acne	....	....	....	2	....	....	2	....	1	....	....	....	1	1	....	....	....	....	3	....	....	....	10
Eczema	....	....	1	....	....	....	1	1	....	....	....	....	....	....	....	....	....	....	2	....	....	....	5
Impetigo	....	....	1	1	....	1	1	....	....	....	....	....	....	1	....	....	2	....	....	....	....	....	7
Ringworm	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	15	....	2	....	....	....	17
Scabies	....	....	....	....	1	....	....	....	....	....	....	....	....	....	1	....	....	....	4	....	....	1	7
Furunculosis	....	....	2	....	....	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	3
Throat—																							
Tonsils (enlarged)	21	12	18	28	8	6	12	5	6	6	6	8	7	24	5	15	....	23	41	11	5	17	284
Miscellaneous—																							
Enuresis	....	....	4	4	....	....	....	....	1	....	....	....	....	....	....	....	....	....	2	....	....	....	11
T. B. of spine	....	....	....	5	1	....	....	....	....	....	....	....	....	....	....	....	....	....	6	....	....	....	12
T. B. of joints	....	....	....	6	....	....	....	....	....	....	....	....	....	1	....	....	....	2	4	1	....	....	14
T. B. of glands	....	....	....	....	....	1	....	....	....	....	....	....	....	....	2	4	5	13	4	5	....	....	34
Deformities (rachitic)	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	5	10	16	20	....	....	....	51
Malnutrition	18	8	23	39	16	24	6	11	5	13	4	13	5	27	35	37	37	33	73	32	4	24	487
No. of children enrolled	689	268	474	780	284	327	319	199	107	180	342	250	199	614	554	775	670	835	1,270	570	129	419	10,254
No. of children examined	615	219	419	735	263	315	276	183	94	145	329	212	180	565	464	615	567	677	999	417	99	343	8,731
No. of children defective	194	70	185	269	100	147	88	64	30	50	55	79	57	191	149	227	203	227	339	139	29	105	2,997
No. of children excluded	5	2	20	6	7	10	2	3	....	....	5	10	3	9	1	10	11	5	15	2	....	4	130
No. of children ordered vaccinated	41	14	28	53	20	16	22	10	....	10	23	17	....	21	13	31	41	58	35	25	1	17	496

MEDICAL EXAMINATION OF PAROCHIAL SCHOOLS.

TABLE No. 6—*Showing Total Defects of Children in Each School Examined by Dr. H. Warren Buckler and Mrs. Olivia C. Dawson.*

DEFECTS.	Fourteen Holy Martyrs.	St. Joseph's.	St. Mary's.	Our Lady of Good Counsel.	Holy Cross.	St. Jerome's.	St. Peter's.	St. John the Baptist.	Total.
Ear—									
Deafness	1	1	2	2	....	4	2	....	12
Otitis media	1	....	....	2	....	1	....	....	4
Eye—									
Blepharitis	7	3	6	5	4	3	9	....	37
Conjunctivitis	....	1	....	....	2	....	....	....	3
Eye strain	11	3	28	19	5	17	21	3	107
Opacity	....	2	1	....	2	1	1	....	7
Strabismus	....	1	....	5	3	1	9	2	21
Stye	....	....	....	....	....	....	1	....	1
Scalp—									
Pediculosis	9	4	5	3	5	3	5	....	34
Mouth—									
Teeth (defective)	46	17	76	62	34	56	79	4	374
Nose—									
Adenoids	36	13	59	23	32	34	61	5	263
Rhinitis	7	....	20	14	....	18	20	....	79
Nervous System—									
Epilepsy	....	....	....	....	....	....	1	....	1
Chorea	1	....	....	....	1	1	3	....	6
Mental deficiency	....	1	6	....	3	9	1	1	21
Paralysis (infantile)	....	....	....	....	....	....	3	....	3
Skin—									
Acne	1	....	....	....	....	....	....	....	1
Impetigo	....	1	....	....	2	....	2	....	5
Ringworm	....	1	....	....	....	....	2	....	3
Throat—									
Tonsils (enlarged)	23	11	40	21	15	27	40	1	178
Miscellaneous—									
Adenitis	....	....	1	1	....	....	1	....	3
T. B. of spine	....	....	....	....	....	....	1	....	1
T. B. of joints	....	....	1	....	....	....	....	....	1
T. B. of lungs	....	....	....	....	....	1	....	....	1
Malnutrition	19	5	17	4	17	19	30	....	111
No. of children enrolled	200	135	517	301	284	275	455	58	2,225
No. of children examined	185	95	419	258	240	269	440	48	1,954
No. of children defective	64	41	163	83	80	90	....	14	535
No. of children excluded	....	....	....	....	....	1	....	....	1
No. of children ordered vaccinated	48	5	15	28	44	35	98	1	274

MEDICAL EXAMINATION OF PAROCHIAL SCHOOLS.

TABLE No. 7—*Showing Total Defects of Children in Each School Examined by Dr. A. K. Bond and Miss Virginia B. Lorentz.*

DEFECTS.	St. Alphonsus'.	St. James'.	Cathedral.	St. Wenceslaus'.	St. Paul's.	St. Andrew's.	St. Katharine's.	Total.
Ear—								
Deafness	.....	3	.....	1	.....	1	.....	5
Otorrhœa	1	.....	.....	.....	.....	.....	.....	1
Eye—								
Blepharitis	1	12	7	6	6	14	15	61
Eye strain	.....	5	2	1	4	2	2	16
Strabismus	.....	3	.....	.....	.....	.....	.....	3
Tear-drop	.....	.....	.....	.....	.....	1	.....	1
Scalp—								
Pediculosis	10	31	10	6	29	14	16	116
Mouth—								
Teeth (defective)	.....	14	.....	15	9	12	3	53
Nose—								
Adenoids	3	13	4	5	9	20	25	79
Rhinitis	.....	.....	.....	.....	.....	1	.....	1
Skin—								
Impetigo	2	1	1	1	.....	1	1	7
Ringworm	.....	.....	.....	.....	.....	1	.....	1
Psoriasis	.....	1	.....	.....	.....	.....	.....	1
Throat—								
Tonsils (enlarged)	3	13	10	7	11	23	31	98
Miscellaneous—								
Adenitis	.....	.....	1	.....	.....	.....	3	4
Filth	.....	.....	.....	.....	.....	.....	1	1
Malnutrition	.....	2	.....	.....	2	.....	1	5
Limp	.....	.....	.....	.....	.....	1	.....	1
No. of children enrolled	95	335	103	233	346	271	317	1,700
No. of children examined	45	335	102	221	314	269	317	1,603
No. of children defective	16	62	37	22	68	74	105	384
No. of children ordered vaccinated	4	157	18	60	45	26	59	369

MEDICAL EXAMINATION OF PAROCHIAL SCHOOLS.

TABLE NO. 8—*Showing Total Defects of Children in Each School Examined by Dr. A. L. Fehsenfeld and Miss M. A. Gorter.*

DEFECTS.	St. Joseph's.	St. Martin's.		St. Peter Clavier's.	St. Benedict's.	St. Pius'.	St. Gregory's.	Total.
		Boys.	Girls.					
Ear—								
Otitis media	....	....	1	....	....	....	....	1
Eye—								
Blepharitis	5	1	2	5	....	2	1	16
Blindness	1	....	....	1	....	....	....	2
Eye strain	4	4	6	1	2	2	6	25
Opacity	1	....	....	1	....	....	....	2
Strabismus	1	....	....	2	1	....	2	6
Stye	....	1	1	....	....	....	....	2
Scalp—								
Pediculosis	1	2	....	....	....	2	2	7
Ringworm	....	....	....	1	....	....	....	1
Mouth—								
Teeth (defective)	4	5	2	5	....	4	....	20
Cleft palate	....	1	1	....	....	....	1	3
Nose—								
Adenoids	7	9	24	11	3	19	8	81
Rhinitis	....	1	9	3	2	3	2	20
Deformities	....	....	1	....	....	....	....	1
Nervous System—								
Mental deficiency	....	....	....	....	....	....	2	2
Paralysis (infantile)	....	1	....	....	....	....	....	1
Skin—								
Eczema	....	....	....	1	....	....	....	1
Impetigo	....	....	....	3	....	....	1	4
Ringworm	....	....	....	1	....	....	....	1
Scabies	....	....	....	1	....	....	....	1
Throat—								
Tonsils (enlarged)	13	20	34	22	19	21	16	145
Miscellaneous—								
Adenitis	....	3	1	....	2	1	....	7
Enuresis	....	....	....	....	....	2	2	4
Deformities (rachitic)	....	....	....	1	....	....	....	1
Malnutrition	....	1	....	5	2	....	....	8
Anæmia	....	2	....	1	....	....	....	3

MEDICAL EXAMINATION OF PAROCHIAL SCHOOLS.

TABLE No. 8 (Continued)—*Showing Total Defects of Children in Each School Examined by Dr. A. L. Fehsenfeld and Miss M. A. Gorter.*

DEFECTS.	St. Joseph's.	St. Martin's.		St. Peter Clavier's.	St. Benedict's.	St. Pius'.	St. Gregory's.	Total.
		Boys.	Girls.					
No. of children enrolled.....	251	259	274	320	103	165	230	1,602
No. of children examined.....	191	211	256	250	91	140	220	1,359
No. of children defective.....	30	47	54	43	24	30	30	258
No. of children excluded.....	....	....	....	1	....	....	....	1
No. of children ordered vaccinated.....	52	82	73	22	25	21	37	312

MEDICAL EXAMINATION OF PAROCHIAL SCHOOLS.

TABLE No. 9—*Showing Total Defects of Children in Each School Examined by Dr. R. A. Urquhart and Miss Agnes P. Kloman.*

DEFECTS.	Corpus Christi.	Immaculate Conception.	St. Barnabas'.	Sts. Philip and James.	St. Ann's.	St. Thomas'.	St. John's.		Total.
							Boys.	Girls.	
Ear—									
Deafness	....	....	....	....	....	....	1	1	2
Otorrhœa	....	1	....	....	1	....	2	2	6
Eye—									
Blepharitis	....	....	....	3	2	....	....	....	5
Eye strain	....	4	8	5	11	1	7	8	44
Strabismus	....	....	....	1	....	....	....	....	1
Stye	....	....	....	....	....	1	....	....	1
Scalp—									
Pediculosis	8	9	6	12	18	11	9	55	128
Mouth—									
Teeth (defective)	11	14	24	22	30	19	27	36	183
Nose—									
Adenoids	7	5	10	8	11	6	14	9	70
Nervous System—									
Paralysis (infantile)	....	....	....	....	2	....	....	....	2
Skin—									
Acne	....	....	....	....	1	....	....	....	1
Eczema	....	1	....	....	....	....	....	....	1
Furuncle	1	....	....	....	....	....	....	....	1
Throat—									
Tonsils (enlarged)	3	5	5	6	11	2	12	8	52
Miscellaneous—									
T. B. glands	....	....	....	....	1	1	....	....	2
Malnutrition	8	6	8	10	13	8	12	10	75
No. of children enrolled	129	170	158	173	335	107	272	292	1,636
No. of children examined	117	130	113	118	286	84	215	208	1,271
No. of children defective	32	38	39	44	84	33	68	86	424
No. of children excluded	2	....	4	3	3	4	2	7	25
No. of children ordered vaccinated	18	17	12	23	66	10	55	40	241

MEDICAL EXAMINATION OF PAROCHIAL SCHOOLS.

TABLE NO. 10—*Showing Total Defects of Children in Each School Examined by Dr. Henry B. Kolb and Mrs. Henrietta E. Knorr.*

DEFECTS.	St. Leo's (Front St.)	St. Stanislaus'.	St. Leo's (Stiles St.)	St. Patrick's. Girls.	St. Patrick's. Boys.	St. Casimir's.	St. Bridget's.	St. Elizabeth's.	St. Michael's. Girls.	St. Michael's. Boys.	Holy Rosary.	Total.
Ear—												
Deafness	...	...	...	...	...	...	...	1	...	...	...	1
Otitis media	1	2	3	1	...	2	...	...	2	...	1	12
Otorrhœa	1	2	...	1	...	1	...	...	2	...	1	8
Eye—												
Blepharitis	...	...	...	1	...	...	4	9	5	...	1	20
Conjunctivitis	...	1	...	...	...	...	...	...	...	...	1	2
Eye strain	...	2	...	...	...	...	...	5	...	...	...	7
Opacity	...	1	...	...	...	1	...	...	...	...	...	2
Strabismus	...	3	1	...	...	...	1	2	3	...	5	15
Stye	1	2	...	...	1	4	1	2	1	2	...	14
Scalp—												
Pediculosis	4	30	7	9	...	9	5	...	...	...	...	64
Mouth—												
Teeth (defective)	1	19	4	...	2	15	8	10	20	1	31	111
Nose—												
Adenoids	16	59	19	17	7	51	23	25	58	16	48	339
Rhinitis	12	26	38	3	3	7	9	7	13	1	26	145
Nervous System—												
Paralysis (infantile)	...	...	...	...	...	...	1	...	...	...	...	1
Skin—												
Ecthyma	...	1	1	...	...	8	4	1	2	...	3	20
Eczema	...	...	...	...	...	...	1	...	2	...	...	3
Impetigo	...	2	...	...	...	...	1	...	...	...	1	4
Ringworm	...	...	...	...	...	...	...	...	...	...	1	1
Scabies	...	...	1	...	...	...	...	...	...	...	...	1
Dermatitis	...	...	...	...	...	...	...	...	...	...	1	1
Porrigo	...	...	1	...	...	...	...	...	...	...	...	1
Throat—												
Tonsils (enlarged)	16	59	19	17	7	51	...	25	58	16	48	316
Tonsilitis	...	1	...	...	...	...	...	...	...	...	...	1
Miscellaneous—												
Adenitis	...	...	...	...	1	...	...	...	1	3	1	6
T. B. of spine	...	...	...	...	...	...	...	...	...	...	1	1
T. B. of joints	...	...	...	...	...	2	...	...	...	...	1	3
T. B. of lungs	...	1	...	...	...	...	...	...	2	...	...	3
Malnutrition	...	4	...	...	...	3	1	1	1	...	1	11
Wry neck	...	1	...	...	...	...	...	...	...	...	1	2
Heart disease	...	...	...	...	...	1	...	...	1	...	...	2
Cyst	...	...	...	...	...	...	...	...	...	...	1	1

MEDICAL EXAMINATION OF PAROCHIAL SCHOOLS.

TABLE No. 10 (Continued)—*Showing Total Defects of Children in Each School Examined by Dr. Henry B. Kolb and Mrs. Henrietta E. Knorr.*

DEFECTS.	St. Leo's (Front St.)	St. Stanislaus'.	St. Leo's (Stiles St.)	St. Patrick's.		St. Casimir's.	St. Bridget's.	St. Elizabeth's.	St. Michael's.		Holy Rosary.	Total.
				Girls.	Boys.				Girls.	Boys.		
No. of children enrolled.	156	800	183	187	165	533	385	560	559	224	960	4,712
No. of children examined	132	716	147	187	151	520	351	531	559	218	895	4,407
No. of children defective.	35	135	63	30	12	103	54	56	95	21	115	719
No. of children excluded.	...	4	1	...	...	...	1	...	...	...	2	8
No. of children ordered vaccinated	6	218	33	14	14	146	50	88	165	...	354	1,088

MEDICAL EXAMINATION OF PUBLIC SCHOOLS.

TABLE NO. 11—*Review of Defectives in White Schools Nos.* 1, 4, 9, 10, 12, 22, 28, 29, 33, 34, 35, 70, 72, 76, 84, 92 *and* 95, *by Dr. H. Warren Buckler and Mrs. Olivia C. Dawson.*

DEFECTS.	Cured.	Improved.	Unimproved.
Ear—			
Deafness	1	11	17
Otitis media	1	5	1
Otorrhœa	.....	4	2
Eye—			
Blepharitis	4	15	10
Eye strain	124	18	175
Keratitis	.....	.....	1
Opacity	.....	.....	8
Strabismus	.....	16	19
Scalp—			
Pediculosis	82	20	14
Mouth—			
Teeth (defective)	.....	16	503
Skin—			
Eczema	.....	1	.....
Impetigo	44	.....	.....
Scabies	3	.....	.....
Nose—			
Adenoids	108	5	559
Nervous System—			
Chorea	.....	9	7
Epilepsy	.....	.....	5
Mental deficiency	.....	.....	131
Paralysis (infantile)	.....	1	5
Throat—			
Tonsils (enlarged)	86	6	384
Miscellaneous—			
Malnutrition	6	67	162
T. B. of spine	.....	1	.....
T. B. of joints	.....	.....	1
T. B. of lungs	.....	1	.....
Cong. lues	.....	.....	1
Total defects	459	196	2,005

MEDICAL EXAMINATION OF PUBLIC SCHOOLS.

TABLE NO. 11 (Continued)—*Review of Defectives in Colored Schools Nos. 106 and 109, by Dr. H. Warren Buckler and Mrs. Olivia C. Dawson.*

DEFECTS.	Cured.	Improved.	Unimproved.
Eye—			
Blepharitis	.....	2	1
Eye strain	16	.....	37
Keratitis	.....	1	8
Opacity	.....	.....	8
Scalp—			
Ringworm	3	2	.....
Mouth—			
Teeth (defective)	.....	.....	69
Skin—			
Impetigo	1	.....	.....
Ringworm	4	.....	.....
Nose—			
Adenoids	.....	.....	14
Nervous System—			
Chorea	.....	1	.....
Mental deficiency	.....	.....	8
Throat—			
Tonsils (enlarged)	.....	.....	39
Miscellaneous—			
Adenitis	.....	.....	9
Malnutrition	.....	.....	21
T. B. of spine	.....	.....	1
T. B. of glands	.....	.....	11
Total defects	24	6	226

MEDICAL EXAMINATION OF PUBLIC SCHOOLS.

TABLE NO. 12—*Review of Defectives in White Schools Nos. 2, 3, 6, 7, 8, 23, 24, 25, 26, 27, 38, 40, 42, 43, 47, 73, 77, 83, 93 and 97, by Dr. Henry B. Kolb and Mrs. H. E. Knorr.*

DEFECTS.	Cured.	Improved.	Unimproved.
Ear—			
Deafness	.....	2	1
Otitis media	4	4	4
Otorrhœa	1	3	3
Cerumen	1	.....	.....
Eye—			
Blepharitis	49	27	34
Conjunctivitis	2	.....	.....
Eye strain	.....	59	44
Opacity	.....	.....	4
Strabismus	3	18	30
Stye	9	.....	1
Pink-eye	2	.....	1
Scalp—			
Pediculosis	202	229	74
Seborrhœa	1	.....	1
Mouth—			
Teeth (defective)	146	8	253
Skin—			
Eczema	2	.....	1
Ichthyosis	.....	1	.....
Impetigo	2	.....	.....
Ringworm	2	.....	.....
Scabies	1	.....	.....
Ecthyma	22	1	.....
Furunculosis	2	.....	.....
Cyst	.....	.....	2
Porrigo	2	1	1
Warts	.....	.....	1
Nose—			
Adenoids	222	17	403
Rhinitis	196	4	73
Nervous System—			
Chorea	1	1	.....
Mental deficiency	.....	1	5
Paralysis (infantile)	.....	1	1
Defective speech	.....	.....	1
Facial paralysis	.....	.....	1

MEDICAL EXAMINATION OF PUBLIC SCHOOLS.

TABLE No. 12 (Continued)—*Review of Defectives in White Schools Nos. 2, 3, 6, 7, 8, 23, 24, 25, 26, 27, 38, 40, 42, 43, 47, 73, 77, 83, 93 and 97, by Dr. Henry B. Kolb and Mrs. H. E. Knorr.*

DEFECTS.	Cured.	Improved.	Unimproved.
Throat—			
Pharyngitis	1	.....	.....
Tonsils (enlarged)	194	17	402
Miscellaneous—			
Adenitis	8	.....	12
Malnutrition	11	13	10
T. B. of spine	.....	2	2
T. B. of joints	.....	.....	1
T. B. of lungs	.....	.....	13
Anæmia	1	.....	.....
Spinal curvature	.....	.....	1
Total defects	1,087	409	1,380

MEDICAL EXAMINATION OF PUBLIC SCHOOLS.

TABLE NO. '12 (Continued)—*Review of Defectives in Colored Schools Nos. 105 and 108, by Dr. Henry B. Kolb and Mrs. H. E. Knorr.*

DEFECTS.	Cured.	Improved.	Unimproved.
Eye—			
Blepharitis	1	.....	.....
Conjunctivitis	1	.....	.....
Mouth—			
Teeth (defective)	.....	.....	9
Nose—			
Adenoids	9	.....	22
Rhinitis	4	.....	2
Throat—			
Tonsils (enlarged)	9	.....	22
Miscellaneous—			
Malnutrition	1	.....	.....
T. B. of lungs	.....	1	.....
Total defects	25	1	55

MEDICAL EXAMINATION OF PUBLIC SCHOOLS.

TABLE NO. 13—*Review of Defectives in White Schools Nos.* 5, 14, 16, 20, 21, 31, 32, 39, 45, 58, 61, 79, 80 *and* 94, *by Dr. R. A. Urquhart and Miss A. P. Kloman.*

DEFECTS.	Cured.	Improved.	Unimproved.
Ear—			
Deafness	2	5	7
Otorrhœa	6	1	1
Eye—			
Blepharitis	2	1	.....
Coryza	5	.....	.....
Eye strain	109	18	64
Strabismus	5	2	10
Stye	1	.....	.....
Scalp—			
Alopecia	1	.....	.....
Pediculosis	103	111	93
Ringworm	3	3	.....
Seborrhœa	.....	1	1
Mouth—			
Teeth (defective)	161	75	331
Skin—			
Acne	2	3	.....
Eczema	4	.....	.....
Impetigo	12	.....	.....
Scabies	.....	.....	1
Herpes	2	.....	.....
Nose—			
Adenoids	75	1	137
Nervous System—			
Chorea	3	.....	.....
Paralysis (infantile)	.....	2	.....
Throat—			
Tonsils (enlarged)	54	5	101
Miscellaneous—			
Malnutrition	25	48	48
Enuresis	4	.....	.....
T. B. of joints	.....	1	.....
T. B. of glands	1	.....	.....
Total defects	580	277	793

MEDICAL EXAMINATION OF PUBLIC SCHOOLS.

TABLE No. 13 (Continued)—*Review of Defectives in Colored Schools Nos.* 103, 107 *and Branch,* 110, 111, 112, 113, 116 *and* 118, *by Dr. R. A. Urquhart and Miss A. P. Kloman.*

DEFECTS.	Cured.	Improved.	Unimproved.
Ear—			
Deafness	1	2	3
Eye—			
Blepharitis	1	.....	.....
Coryza	2	.....	.....
Eye strain	38	22	55
Strabismus	.....	1	7
Scalp—			
Pediculosis	12	5	3
Ringworm	46	25	11
Seborrhœa	1	.....	.....
Mouth—			
Teeth (defective)	27	30	290
Skin—			
Ichthyosis	.....	.....	1
Impetigo	.....	2	.....
Scabies	6	.....	.....
Nose—			
Adenoids	27	.....	82
Nervous System—			
Epilepsy	.....	1	.....
Paryalsis (infantile)	.....	1	.....
Throat—			
Tonsils (enlarged)	25	6	70
Miscellaneous—			
Malnutrition	24	52	73
Enuresis	1	1	2
T. B. of spine	.....	2	1
T. B. of joints	.....	3	.....
T. B. of glands	.....	8	12
Rachitic defects	2	5	7
Total defects	213	166	617

MEDICAL EXAMINATION OF PUBLIC SCHOOLS.

TABLE No. 14—*Review of Defectives in White Schools Nos.* 13, 37, 50, 51, 53, 54, 55, 56, 57, 71, 74, 83, 85 *and* 99, *by Dr. A. K. Bond and Miss V. B. Lorentz.*

DEFECTS.	Cured.	Improved.	Unimproved.
Ear—			
Deafness	10	1	10
Otitis media	.....	.....	1
Otorrhœa	3	1	3
Eye—			
Blepharitis	111	45	45
Conjunctivitis	3	.....	.....
Coryza	2	.....	.....
Eye strain	130	7	46
Strabismus	5	2	7
Stye	5	.....	.....
Ptosis	.....	1	.....
Scalp—			
Pediculosis	272	114	70
Ringworm	1	.....	.....
Mouth—			
Teeth (defective)	97	7	76
Skin—			
Acne	.....	.....	1
Eczema	6	.....	1
Ichthyosis	.....	.....	4
Impetigo	10	.....	.....
Ringworm	3	.....	.....
Scabies	1	.....	.....
Furunculosis	1	.....	.....
Vose—			
Adenoids	404	19	239
Rhinitis	8	.....	.....
Nervous System—			
Mental deficiency	.....	.....	2
Throat—			
Pharyngitis	1	.....	.....
Tonsils (enlarged)	357	21	310
Acute Tonsilitis	3	.....	.....
Laryngitis	1	.....	.....
Miscellaneous—			
Adenitis	24	1	5
Malnutrition	10	2	2
Anæmia	6	1	.....
Heart disease (abscess)	1	.....	.....
Total defects	1,475	222	822

MEDICAL EXAMINATION OF PUBLIC SCHOOLS.

TABLE NO. 14 (Continued)—*Review of Defectives in Colored School No. 115, by Dr. A. K. Bond and Miss V. B. Lorentz.*

DEFECTS.	Cured.	Improved.	Unimproved.
Eye—			
Blepharitis	.....	1	1
Eye strain	.....	.....	2
Scalp—			
Pediculosis	2	.....	.....
Nose—			
Adenoids	1	.....	5
Throat—			
Tonsils (enlarged)	6	.....	5
Total defects	9	1	13

MEDICAL EXAMINATION OF PUBLIC SCHOOLS.

TABLE NO. 15—*Review of Defectives in White Schools Nos.* 11, 15, 19, 30, 48, 59, 60, 62, 63, 64, 67, 68, 75, 78, 81, 86 *and* 98, *by Dr. A. L. Fehsenfeld and Miss M. A. Gorter.*

DEFECTS.	Cured.	Improved.	Unimproved.
Ear—			
Deafness	.....	27	4
Otitis media	.....	3	.....
Otorrhœa	1	11	1
Eye—			
Blepharitis	16	55	21
Conjunctivitis	1	1	1
Eye strain	7	160	84
Opacity	.....	.....	4
Strabismus	2	45	24
Stye	12	.....	.....
Nystagmus	.....	1	.....
Blind in one eye	.....	1	2
Scalp—			
Pediculosis	52	152	76
Seborrhœa	3	2	.....
Mouth—			
Teeth (defective)	3	181	102
Tongue-tie	6	.....	1
Cleft palate	.....	1	1
Skin—			
Acne	.....	1	2
Eczema	2	5	.....
Ichthyosis	.....	.....	1
Impetigo	21	9	1
Ringworm	2	.....	.....
Nose—			
Adenoids	86	42	322
Rhinitis	49	10	3
Nervous System—			
Chorea	.....	1	.....
Epilepsy	.....	1	.....
Mental deficiency	.....	.....	22
Paralysis (infantile)	.....	12	.....
Throat—			
Pharyngitis	.....	1	.....
Tonsils (enlarged)	84	205	562

MEDICAL EXAMINATION OF PUBLIC SCHOOLS.

TABLE No. 15 (Continued)—*Review of Defectives in White Schools Nos.* 11, 15, 19, 30, 48, 59, 60, 62, 63, 64, 67, 68, 75, 78, 81, 86 *and* 98, *by Dr. A. L. Fehsenfeld and Miss M. A. Gorter.*

DEFECTS.	Cured.	Improved.	Unimproved.
Miscellaneous—			
Adenitis	5	137	24
Malnutrition	2	95	39
Enuresis	.....	5	2
T. B. of spine	.....	1	.....
T. B. of joints	.....	2	.....
Macrocephalous	.....	.....	1
Hernia	.....	1	.....
Anaemia	1	37	18
Total defects	355	1,205	1,318

MEDICAL EXAMINATION OF PUBLIC SCHOOLS.

TABLE No. 15 (Continued)—*Review of Defectives in Colored Schools Nos.* 100 *and* 118 *Branch, by Dr. A. L. Fehsenfeld and Miss M. A. Gorter.*

DEFECTS.	Cured.	Improved.	Unimproved.
Ear—			
Deafness			1
Eye—			
Blepharitis		1	
Coryza	1		
Eye strain		3	6
Strabismus			2
Obstruction of tear-duct	1		
Scalp—			
Pediculosis			3
Ringworm			3
Mouth—			
Teeth (defective)		4	7
Skin—			
Eczema		1	
Ringworm		3	
Nose—			
Adenoids			7
Nervous System—			
Mental deficiency			1
Paralysis (infantile)		1	
Throat—			
Tonsils (enlarged)		5	33
Miscellaneous—			
Malnutrition		4	1
T. B. of spine		1	
Rachitic deficiency			4
Anaemia		1	
Total defects	2	24	68

MEDICAL EXAMINATION OF PAROCHIAL SCHOOLS.

TABLE No. 16—*Review of Defectives in Parochial Schools Fourteen Holy Martyrs', St. Joseph's, St. Peter's, St. Jerome's, St. Mary's, Holy Cross and Our Lady of Good Counsel, by Dr. H. Warren Buckler and Mrs. Olivia C. Dawson.*

DEFECTS.	Cured.	Improved.	Unimproved.
Ear—			
Deafness	.....	3	5
Otitis media	.....	1	.....
Eye—			
Blepharitis	5	4	13
Eye strain	32	3	40
Opacity	.....	1	1
Strabismus	.....	3	10
Scalp—			
Pediculosis	14	.....	.....
Mouth—			
Teeth (defective)	9	.....	188
Skin—			
Impetigo	2	.....	.....
Psoriasis	2	.....	.....
Ringworm	3	.....	.....
Nose—			
Adenoids	27	1	98
Nervous System—			
Chorea	.....	4	.....
Epilepsy	.....	.....	1
Mental deficiency	.....	.....	15
Paralysis (infantile)	.....	.....	3
Throat—			
Tonsils (enlarged)	15	2	63
Miscellaneous—			
Malnutrition	5	21	33
Total defects	114	43	470

MEDICAL EXAMINATION OF PAROCHIAL SCHOOLS.

TABLE NO. 17—*Review of Defectives in Parochial Schools St. Patrick's (Male and Female), St. Casimir's, St. Leo's (Front Street), St. Bridget's, St. Michael's (Male and Female), St. Leo's (Stiles Street), St. Elizabeth's, St. Stanislaus' and Holy Rosary, by Dr. H. B. Kolb and Mrs. H. E. Knorr.*

DEFECTS.	Cured.	Improved.	Unimproved.
Ear—			
Deafness	.....	1	.....
Otitis media	3	1	1
Otorrhœa	3	1	1
Eye—			
Blepharitis	9	2	3
Conjunctivitis	2	.....	.....
Eye strain	.....	4	.....
Strabismus	.....	2	11
Stye	12	.....	.....
Ptosis	.....	.....	1
Scalp—			
Pediculosis	31	25	6
Mouth—			
Teeth (defective)	20	1	54
Cleft palate	.....	.....	1
Skin—			
Eczema	3	.....	.....
Ecthyma	15	.....	.....
Nose—			
Adenoids	54	21	180
Rhinitis	66	.....	40
Throat—			
Tonsils (enlarged)	54	21	180
Miscellaneous—			
Adenitis	2	.....	2
Malnutrition	1	1	.....
T. B. of spine	.....	.....	1
T. B. of lungs	.....	1	1
Torticollis	.....	.....	3
Total defects	275	81	485

MEDICAL EXAMINATION OF PAROCHIAL SCHOOLS.

TABLE NO. 18—*Review of Defectives in Parochial Schools Mt. Olivet (Colored), St. Pius', St. Martin's (Male and Female), St. Joseph's, St. Benedict's, St. Peter Clavier's and St. Gregory's, by Dr. A. L. Fehsenfeld and Miss M. A. Gorter.*

DEFECTS.	Cured.	Improved.	Unimproved.
Ear—			
Otitis media	.....	1	.....
Eye—			
Blepharitis	2	2	7
Eye strain	.....	18	8
Opacity	.....	.....	1
Strabismus	.....	2	1
Blind in one eye	.....	.....	1
Scalp—			
Pediculosis	2	8	1
Ringworm	.....	.....	1
Mouth—			
Teeth (defective)	.....	7	13
Cleft palate	.....	.....	1
Skin—			
Eczema	.....	1	.....
Impetigo	1	.....	.....
Nose—			
Adenoids	8	13	53
Rhinitis	9	6	.....
Nervous System—			
Mental deficiency	.....	.....	1
Paralysis (infantile)	.....	2	.....
Throat—			
Tonsils (enlarged)	8	38	89
Miscellaneous—			
Adenitis	2	5	1
Malnutrition	.....	3	1
Enuresis	.....	2	.....
Anaemia	.....	1	.....
Total defects	32	109	179

MEDICAL EXAMINATION OF PAROCHIAL SCHOOLS.

TABLE No. 19—*Review of Defectives in Parochial Schools St. Katharine's, St. James', St. Paul's, St. Wenceslaus', St. Alphonsus, Cathedral and St. Andrew's, by Dr. A. K. Bond and Miss V. B. Lorentz.*

DEFECTS.	Cured.	Improved.	Unimproved.
Ear—			
Deafness	.....	.....	1
Otorrhœa	1	1	.....
Eye—			
Blepharitis	47	10	10
Eye strain	12	1	6
Strabismus	.....	.....	3
Obstructed tear duct	.....	1	.....
Scalp—			
Pediculosis	72	22	7
Ringworm	1	.....	.....
Mouth—			
Teeth (defective)	9	.....	1
Skin—			
Eczema	1	.....	.....
Impetigo	4	.....	.....
Ringworm	2	.....	.....
Nose—			
Adenoids	50	2	33
Rhinitis	5	.....	.....
Throat—			
Tonsils (enlarged)	66	2	39
Miscellaneous—			
Adenitis	4	.....	1
Malnutrition	1	.....	.....
Anaemia	.....	1	.....
Total defects	275	40	101

MEDICAL EXAMINATION OF PAROCHIAL SCHOOLS.

TABLE No. 20—*Review of Defectives in Parochial Schools Sts. Philip and James', St. Thomas', St. Ann's, Corpus Christi, Immaculate Conception, St. John's (Male and Female) and St. Barnabas', by Dr. R. A. Urquhart and Miss A. P. Kloman.*

DEFECTS.	Cured.	Improved.	Unimproved.
Ear—			
Otorrhœa	.....	2	1
Eye—			
Blepharitis	1	1	.....
Conjunctivitis	.....	1	.....
Eye strain	26	6	25
Strabismus	.....	2	1
Scalp—			
Pediculosis	52	28	22
Ringworm	1	.....	1
Mouth—			
Teeth (defective)	26	10	109
Skin—			
Eczema	1	1	.....
Ichthyosis	.....	.....	1
Nose—			
Adenoids	16	.....	35
Throat—			
Tonsils (enlarged)	12	3	22
Malnutrition	3	8	20
Total defects	138	62	237

TABLE NO. 21—*Individual and Total Work of School Nurses.*

	Pupils Inspected at School.	Pupils Inspected at Home.	Pupils Treated at School.	Pupils Treated at Home.	Number of Visits to Homes.	Number of Visits to Dispensaries.
Miss A. P. Kloman—						
October, 1913	1,046	30	1	.....	148	3
November, 1913	1,025	31	1	.....	120	12
December, 1913	673	26	.....	.....	139	15
January, 1914	733	38	.....	4	139	8
February, 1914	1,030	12	.....	.....	72	1
March, 1914	785	21	1	1	92	23
April, 1914	606	20	2	1	63	9
May, 1914	1,040	31	3	3	119	44
Total	6,938	209	8	9	892	115
Miss M. A. Gorter—						
October, 1913	1,040	59	18	1	137	1
November, 1913	857	51	26	17	102	5
December, 1913	612	22	25	1	95	8
January, 1914	1,209	35	23	6	110	57
February, 1914	949	35	13	1	110	17
March, 1914	502	25	6	.....	115	14
April, 1914	528	19	31	.....	104	4
May, 1914	576	16	7	1	74	.....
Total	6,273	262	149	27	847	106
Miss V. B. Lorentz—						
October, 1913	1,944	32	.....	6	165	3
November, 1913	1,433	50	.....	.....	173	9
December, 1913	1,376	23	1	3	67	12
January, 1914	2,223	26	4	.....	85	12
February, 1914	1,588	28	.....	3	75	7
March, 1914	1,864	30	.....	3	105	7
April, 1914	1,849	39	1	.....	97	2
May, 1914	1,618	37	2	1	90	18
Total	13,895	265	8	16	857	70

TABLE No. 21 (Continued)—*Individual and Total Work of School Nurses.*

	Pupils Inspected at School.	Pupils Inspected at Home.	Pupils Treated at School.	Pupils Treated at Home.	Number of Visits to Homes.	Number of Visits to Dispensaries.
Mrs. H. E. Knorr—						
October, 1913	1,863	4	.....	.....	131	1
November, 1913	3,273	9	.....	2	179	13
December, 1913	2,782	12	.....	.....	98	1
January, 1914	2,502	9	.....	4	160	11
February, 1914	2,439	12	.....	.....	82	5
March, 1914	4,820	4	.....	2	3	16
April, 1914	2,905	.....	2	3	129	12
May, 1914	4,986	3	6	.....	153	15
Total	25,570	53	8	11	935	74
Mrs. Olivia C. Dawson—						
October, 1913	2,368	2	118	10	168	5
November, 1913	1,947	13	11	18	151	28
December, 1913	396	13	13	4	145	7
January, 1914	646	28	11	2	130	5
February, 1914	654	16	14	2	126	9
March, 1914	622	16	15	.....	123	12
April, 1914	895	13	16	.....	83	8
May, 1914	1,185	20	.....	.....	96	7
Total	8,713	121	198	36	1,022	81

SPECIAL TABLES

TUBERCULOSIS
PNEUMONIA
BRONCHO-PNEUMONIA
BRONCHITIS
ALIMENTARY CANAL
INANITION
MARASMUS
CANCER
HEART DISEASES
BRIGHT'S DISEASE
TYPHOID FEVER
SCARLET FEVER
DIPHTHERIA
WHOOPING COUGH
MEASLES

GENERAL

Deaths from All Causes, by Wards, Age, Sex and Color, Including Bay Non-Residents,

Wards.	Non-Residents.	Under 1 Month.				Between 1 and 3 Months.			
		White.		Colored.		White.		Colored.	
		M.	F.	M.	F.	M.	F.	M.	F.
First	2	22	25	....	....	11	4	....	1
Second	....	18	11	....	....	7	11	....	....
Third	1	21	14	....	3	4	5	1	1
Fourth	169	13	8	5	11	2	2	6	1
Fifth	....	5	7	4	6	1	3	1	1
Sixth	33	9	15	6	3	4	1	2	3
Seventh	142	19	16	8	2	4	3	1	1
Eighth	....	16	9	....	....	6	4	1	....
Ninth	59	13	15	3	....	2	3	2	1
Tenth	1	11	9	2	....	6	1	3	3
Eleventh	61	5	2	3	5	4	2	2	2
Twelfth	18	14	8	1	5	2	5	2	1
Thirteenth	1	20	9	2	1	9	5	....	1
Fourteenth	55	17	13	8	7	36	41	4	9
Fifteenth	1	9	7	5	9	11	1	5	2
Sixteenth	4	11	6	6	6	3	2	2	1
Seventeenth	2	1	1	18	17	2	1	9	8
Eighteenth	2	9	10	6	5	11	16	1	2
Nineteenth	16	11	9	5	3	5	....	1	1
Twentieth	1	22	19	....	2	3	10	....	....
Twenty-first	1	8	3	2	6	2	7	3	3
Twenty-second	4	7	5	7	2	3	1	2	1
Twenty-third	....	13	7	5	1	5	7	†2	2
Twenty-fourth	9	21	13	....	....	15	5	....	....
Bay View, not in city wards	....	....	1	....	....	....	....	....	....
Sydenham, not in city wards	1	....	....	....	....	....	....	....	....
Totals	583	315	242	96	94	158	140	50	45
Bay View, in city wards	....	....	1	....	1	....	....	....	....
Sydenham, in city wards	....	....	....	....	....	....	....	....	....
Mount Wilson, in city wards	....	....	....	....	....	1	2	1	2

†Chinese.

TABLE No. 1.

View, Sydenham and Mount Wilson Sanatorium, But Not Including Year 1914.

Three Months to 12 Months.				Between 1 and 2 Years.				Between 2 and 3 Years.				Between 3 and 4 Years.			
White.		Colored.		White.		Colored.		White.		Colored.		White.		Colored.	
M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
29	29	....	....	12	11	....	....	6	4	....	....	2	2	....	....
29	22	....	....	10	6	1	1	2	5	....	....	4	4	....	....
16	16	1	1	10	11	1	2	2	1	....	....	3	2	....	1
4	3	12	8	6	....	10	3	....	1	2	1	....	....	2	2
5	8	4	4	5	5	2	4	....	1	....	3	....	....	....	....
12	7	....	4	6	5	3	1	3	....	....	....	1	1	....	....
16	8	6	3	4	7	4	2	1	6	3	....	4	1	3	....
19	11	4	2	9	7	1	2	4	....	....	....	3	1	....	1
10	5	4	2	6	3	....	1	....	....	....	....	....	....	....	....
14	5	....	3	9	6	1	1	3	....	1	....	1	....	....	1
1	3	6	10	1	....	3	3	....	....	4	2	....	....	....	1
6	3	9	4	4	1	3	2	2	1	1	....	1	....	1	2
11	7	....	2	10	3	....	....	5	2	....	....	....	2	....	....
22	30	9	3	9	4	4	1	3	1	2	1	3	1	....	1
9	8	10	8	1	1	9	6	3	....	4	3	....	....	2	2
9	4	7	5	....	2	4	5	1	2	1	....	....	1	1	....
2	1	17	13	....	1	7	6	....	....	....	3	....	....	7	1
11	18	9	7	4	6	4	1	4	1	....	1	2	1	2	....
14	13	7	3	2	4	3	1	1	1	....	....	....	....	1	....
7	13	1	....	7	3	1	....	....	4	....	....	....	1	1	....
13	17	11	4	9	6	4	3	1	3	....	....	....	2	....	....
13	3	2	2	3	4	1	2	....	1	....	2	3	1	....	....
15	10	3	7	10	6	2	1	3	1	1	....	....	2	1	1
20	27	....	....	8	12	....	....	2	4	....	....	4	1	....	....
....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
307	271	122	95	145	114	68	48	46	39	19	16	31	23	21	13
....	....	....	....	....	....	....	....	....	....	....	....	....	....	1	....
....	1	....	....	1	....	....	....	3	2	....	....	2	1	....	....
3	9	....	2	1	2	1	....	....	....	....	....	....	....	....	....

Continued on next page.

GENERAL TABLE

Deaths from All Causes, by Wards, Age, Sex and Color, Including Bay Non-Residents,

Wards.	Between 4 and 5 Years.				Between 5 and 9 Years.			
	White.		Colored.		White.		Colored.	
	M.	F.	M.	F.	M.	F.	M.	F.
First	4	....	....	....	8	8	....	....
Second	1	2	....	....	4	1	....	1
Third	1	1	....	....	2	3	....	1
Fourth	....	....	....	2	2	2	....	4
Fifth	....	....	....	....	3	....	....	1
Sixth	1	1	....	2	5	4	2	3
Seventh	2	1	....	....	1	1	2	1
Eighth	....	....	2	....	4	1	....	....
Ninth	1	2	....	....	4	3	2	....
Tenth	....	2	....	....	2	1	1	....
Eleventh	....	....	1	3	1	....	....	4
Twelfth	....	1	....	1	2	1	1	1
Thirteenth	....	....	....	....	4	6	....	....
Fourteenth	1	....	1	....	2	1	2	1
Fifteenth	2	1	2	....	3	2	2	3
Sixteenth	....	2	2	1	5	2	1	1
Seventeenth	....	....	....	....	....	....	3	4
Eighteenth	3	2	....	1	....	2	....	....
Nineteenth	1	1	....	....	2	2	....	3
Twentieth	....	....	....	....	3	3	....	....
Twenty-first	....	1	....	1	4	1	....	1
Twenty-second	1	....	....	....	....	1	....	....
Twenty-third	1	....	....	....	2	3	....	1
Twenty-fourth	3	1	....	1	3	6	....	....
Bay View, not in city wards	....	....	....	....	....	....	....	....
Sydenham, not in city wards	....	....	....	....	....	....	....	....
Totals	22	18	8	12	66	54	16	30
Bay View, in city wards	....	....	....	....	....	....	....	1
Sydenham, in city wards	....	....	....	....	1	1	....	....
Mount Wilson, in city wards	....	....	....	....	....	....	....	....

No. 1 (Continued).

View, Sydenham and Mount Wilson Sanatorium, But Not Including Year 1914.

Between 10 and 14 Years.				Between 15 and 19 Years.				Between 20 and 24 Years.				Between 25 and 29 Years.			
White.		Colored.		White.		Colored.		White.		Colored.		White.		Colored.	
M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
2	2	....	....	1	6	....	1	5	11	1	....	7	7	....	....
1	5	1	....	2	3	....	....	5	5	1	....	7	7	2	1
2	2	....	....	3	1	....	....	1	5	3	2	10	....	....	3
2	2	1	1	1	2	1	1	....	1	7	3	7	8	6	4
2	1	2	....	5	3	3	4	3	1	5	3	1	1	3	4
1	2	1	....	2	1	2	1	6	6	1	3	12	6	1	3
4	2	....	....	3	4	2	3	4	8	1	5	6	7	3	3
2	2	....	....	3	5	....	2	9	6	1	....	7	6	1	1
1	1	....	....	1	5	....	1	9	7	2	1	9	4	....	....
3	2	....	1	1	3	3	1	9	5	2	2	6	3	7	1
....	1	1	2	....	1	3	1	2	2	5	4	1	2	1	6
1	....	....	2	....	2	2	3	1	4	4	6	7	4	2	2
....	1	....	....	5	2	....	....	7	8	....	....	3	6	1	....
....	2	2	....	1	....	4	4	4	3	3	9	1	2	7	10
2	1	....	....	4	5	2	4	4	9	7	....	8	2	2	8
4	3	1	....	2	6	2	2	4	6	3	3	....	5	3	4
....	1	5	1	2	1	2	9	1	1	10	16	3	2	7	12
1	....	....	2	1	4	2	1	4	2	4	5	3	4	4	3
2	....	....	....	1	3	2	3	3	5	2	3	6	5	5	1
4	....	....	1	4	2	1	2	4	7	....	2	10	6	....	1
3	1	....	....	2	3	1	1	8	6	1	5	6	5	3	1
....	1	....	2	5	1	....	5	3	2	5	5	7	2	5	6
3	1	....	....	3	5	....	....	5	3	1	1	1	2	1	1
2	2	....	....	2	5	....	....	4	5	....	....	7	7	....	....
....	....	....	....	....	1	....	....	....	1	3	....	2	....	1	....
....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
42	35	14	12	54	74	32	49	105	119	72	78	137	103	65	75
1	....	....	2	2	2	6	7	5	4	10	12	14	2	11	9
....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....

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GENERAL TABLE

Deaths from All Causes, by Wards, Age, Sex and Color, Including Bay Non-Residents,

Wards.	Between 30 and 34 Years.				Between 35 and 39 Years.			
	White.		Colored.		White.		Colored.	
	M.	F.	M.	F.	M.	F.	M.	F.
First	12	8	....	....	8	6	....	....
Second	10	4	2	1	7	7	....	....
Third	9	6	1	4	11	9	6	3
Fourth	6	6	2	*5	3	6	4	7
Fifth	2	1	8	....	4	2	7	3
Sixth	8	6	1	2	14	2	5	2
Seventh	5	8	2	3	10	13	3	4
Eighth	10	11	....	....	16	7	2	3
Ninth	11	....	....	1	9	3	2	1
Tenth	6	6	6	1	9	5	3	3
Eleventh	....	4	4	1	2	3	8	5
Twelfth	4	4	4	3	5	6	5	....
Thirteenth	6	4	1	1	5	2	1	....
Fourteenth	3	....	4	4	2	1	6	7
Fifteenth	4	5	5	4	5	8	8	9
Sixteenth	4	5	5	1	5	8	6	6
Seventeenth	1	1	9	5	3	1	13	10
Eighteenth	10	2	6	6	4	4	6	5
Nineteenth	9	2	4	4	2	6	2	4
Twentieth	8	6	....	1	11	8	....	2
Twenty-first	7	3	3	3	8	11	5	3
Twenty-second	4	3	4	3	5	....	5	4
Twenty-third	5	3	3	3	2	6	1	2
Twenty-fourth	8	6	....	....	12	8	....	....
Bay View, not in city wards	3	....	2	....	4	....	1	1
Sydenham, not in city wards	....	....	....	....	....	....	....	....
Totals	155	104	76	56	166	132	99	84
Bay View, in city wards	12	3	12	5	19	10	12	7
Sydenham, in city wards	....	....	....	....	....	....	....	....
Mount Wilson, in city wards	....	....	....	....	....	....	....	....

*Japanese.

No. 1 (Continued).

View, Sydenham and Mount Wilson Sanatorium, But Not Including Year 1914.

Between 40 and 44 Years.				Between 45 and 49 Years.				Between 50 and 54 Years.				Between 55 and 59 Years.			
White.		Colored.		White.		Colored.		White.		Colored.		White.		Colored.	
M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
14	8	....	....	15	6	....	....	13	11	....	....	20	11	....	....
9	6	3	....	11	6	....	....	19	7	....	....	15	10	1	....
17	6	1	5	8	9	5	1	17	4	3	1	5	5	3	1
15	5	6	5	10	3	7	6	15	7	7	7	20	3	4	5
....	1	6	11	2	2	2	12	12	9	7	4	8	10	6	1
9	1	5	7	10	8	3	3	13	9	3	1	14	12	2	....
7	10	2	3	8	9	1	1	11	5	5	4	7	6	1	2
9	8	1	3	12	15	....	....	11	2	2	1	14	17	1	2
8	7	1	....	9	8	....	....	11	4	....	....	17	6	....	....
3	7	6	....	6	9	5	1	11	10	2	1	13	10	2	1
4	4	3	6	3	12	10	5	8	5	3	4	8	6	3	6
11	5	3	3	9	12	4	3	10	11	6	....	9	10	3	3
5	2	....	....	9	7	†1	....	10	7	1	....	10	7	....	....
5	4	10	8	4	4	9	10	7	8	10	10	6	12	3	6
8	11	4	8	10	10	7	4	9	7	3	3	15	17	3	7
7	4	5	3	11	11	1	3	9	7	6	7	8	13	1	2
6	....	14	10	....	3	18	13	2	1	17	14	6	3	5	15
14	7	3	2	9	6	7	6	9	6	2	5	8	13	5	5
7	3	5	3	4	7	1	6	17	9	3	3	13	8	1	5
9	8	2	....	8	8	1	....	4	11	....	....	13	5	1	....
6	7	4	2	4	5	3	5	10	7	5	2	16	11	3	2
10	3	5	4	8	4	7	5	10	3	†8	9	7	5	5	6
6	7	5	4	11	7	....	2	6	10	6	1	9	7	6	1
9	7	....	....	13	9	1	....	12	10	1	2	7	8	....	....
6	1	1	....	5	1	....	2	3	....	1	2	7	1	1	....
....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
204	132	95	87	199	181	93	88	259	169	101	81	275	216	60	70
18	7	13	12	16	6	16	11	25	8	18	12	24	7	13	7
....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....

†Chinese.

Continued on next page.

GENERAL TABLE

Deaths from All Causes, by Wards, Age, Sex and Color, Including Bay Non-Residents,

Wards.	Between 60 and 64 Years.				Between 65 and 69 Years.			
	White.		Colored.		White.		Colored.	
	M.	F.	M.	F.	M.	F.	M.	F.
First	12	7	....	....	16	8	....	....
Second	8	7	....	....	7	12	....	....
Third	8	7	4	1	7	8	1	....
Fourth	9	11	3	1	12	4	1	5
Fifth	7	5	6	1	7	4	7	4
Sixth	18	14	3	5	14	22	2	....
Seventh	14	13	2	2	12	11	1	1
Eighth	23	17	1	....	12	17	....	1
Ninth	15	14	1	1	17	10	1	....
Tenth	18	14	....	1	9	10	4	1
Eleventh	10	8	5	5	9	12	2	6
Twelfth	8	14	....	4	18	14	1	....
Thirteenth	10	14	1	....	20	15	....	1
Fourteenth	9	11	5	6	11	15	3	3
Fifteenth	8	19	7	4	14	19	4	1
Sixteenth	18	19	1	6	11	22	†1	2
Seventeenth	3	2	9	10	5	5	11	10
Eighteenth	9	13	6	5	9	14	4	3
Nineteenth	12	8	1	1	11	6	....	2
Twentieth	16	8	....	....	10	10	....	....
Twenty-first	6	15	1	1	11	9	....	....
Twenty-second	5	7	7	5	8	4	2	1
Twenty-third	6	2	2	1	5	4	1	1
Twenty-fourth	14	20	....	....	9	13	....	....
Bay View, not in city wards	8	3	5	2	4	1	1	....
Sydenham, not in city wards	....	....	....	....	....	....	....	....
Totals	274	272	70	62	268	269	47	42
Bay View, in city wards	19	8	15	8	18	9	6	4
Sydenham, in city wards	....	....	....	....	....	....	....	....
Mount Wilson, in city wards	....	....	....	....	....	....	....	....

†Chinese.

No. 1 (Continued).

View, Sydenham and Mount Wilson Sanatorium, But Not Including Year 1914.

Between 70 and 74 Years.				Between 75 and 79 Years.				Between 80 and 84 Years.				Between 85 and 89 Years.			
White.		Colored.		White.		Colored.		White.		Colored.		White.		Colored.	
M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
13	12	....	....	8	9	....	....	4	6	....	....	1	1	....	....
9	14	....	....	3	8	1	....	4	7	....	....	1	2	....	....
6	8	....	....	2	4	3	....	2	3	....	1	1	3	1	....
6	6	1	6	10	4	1	....	4	7	....	1	2	....	....	2
6	5	1	....	2	5	2	1	3	3	....	2	....	2	....	....
21	12	2	3	9	12	....	....	12	9	....	1	3	1	....	....
10	7	1	2	6	4	....	1	5	6	....	2	....	1	....	....
18	13	3	....	8	11	....	....	4	4	....	....	3	3	....	....
17	21	....	2	8	14	....	....	9	7	....	....	1	5	....	....
15	23	2	5	11	13	....	2	10	8	....	1	2	7	....	....
10	18	4	1	12	15	....	3	3	10	1	1	....	8	....	1
12	16	1	1	7	14	1	1	8	17	....	2	5	6	....	....
14	8	....	....	9	7	....	....	8	6	....	....	4	1	....	....
7	4	4	3	8	15	2	1	5	9	1	5	2	5	....	2
12	21	2	1	12	21	2	1	7	3	1	2	3	9	....	....
14	13	1	1	10	11	1	1	7	10	1	....	5	3	....	....
5	4	6	6	4	5	2	6	1	8	3	3	2	3	1	1
11	8	3	1	8	13	2	1	5	10	....	....	3	6	....	....
16	14	1	....	12	12	....	2	7	10	....	1	4	8	....	....
16	11	....	1	13	20	....	....	6	8	....	....	6	3	....	....
7	12	2	2	2	10	2	2	4	4	....	....	4	5	....	....
4	5	3	3	1	4	2	1	4	7	....	....	....	2	....	....
12	6	1	....	7	10	....	1	4	4	....	1	1	1	....	....
7	8	....	....	4	12	....	1	4	2	....	....	2	6	....	....
10	9	1	3	3	....	2	1	2	2	1	....	....	....	....	....
....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
278	278	39	41	179	253	23	26	132	170	8	23	55	91	2	6
12	10	8	10	8	8	5	4	6	6	1	5	2	3	2	....
....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....

Continued on next page.

GENERAL TABLE

Deaths from All Causes, by Wards, Age, Sex and Color, Including Bay Non-Residents,

Wards.	Between 90 and 94 Years.				Between 95 and 99 Years.			
	White.		Colored.		White.		Colored.	
	M.	F.	M.	F.	M.	F.	M.	F.
First	....	3	....	....	....	....	....	....
Second	1	1	....	....	....	....	....	....
Third	2	....	....	....	1	....	....	....
Fourth	....	2	....	1	....	....	....	....
Fifth	....	1	....	....	....	....	....	....
Sixth	....	4	....	....	....	....	....	....
Seventh	1	....	....	....	1	....	....	....
Eighth	3	....	....	....	....	....	....	....
Ninth	....	2	....	....	....	1	....	....
Tenth	3	4	....	....	....	1	....	....
Eleventh	....	2	....	....	....	2	....	....
Twelfth	....	3	....	....	....	1	....	....
Thirteenth	....	2	....	....	....	....	....	....
Fourteenth	....	1	....	....	....	....	....	....
Fifteenth	....	....	1	....	....	2	....	....
Sixteenth	1	2	....	....	....	....	....	....
Seventeenth	....	....	....	1	....	....	....	1
Eighteenth	....	2	....	....	....	1	....	1
Nineteenth	....	2	....	2	....	1	....	....
Twentieth	2	1	....	....	....	....	....	....
Twenty-first	....	....	....	....	....	....	....	....
Twenty-second	....	....	....	....	....	....	....	....
Twenty-third	....	....	....	....	....	....	....	....
Twenty-fourth	....	....	....	....	....	....	....	....
Bay View, not in city wards	1	2	....	....	....	....	....	....
Sydenham, not in city wards	....	....	....	....	....	....	....	....
Totals	14	34	1	4	2	9	....	2
Bay View, in city wards	1	....	....	1	....	1	....	....
Svdenham, in city wards	....	....	....	....	....	....	....	....
Mount Wilson, in city wards	....	....	....	....	....	....	....	....

No. 1 (Continued).

View, Sydenham and Mount Wilson Sanatorium, But Not Including Year 1914.

Between 100 and 109 Years.				Totals.				Grand Total.
White.		Colored.		White.		Colored.		
M.	F.	M.	F.	M.	F.	M.	F.	
.....	.....	.....	.....	245	205	1	2	453
.....	.....	.....	.....	194	173	12	4	383
.....	.....	.....	.....	171	133	34	31	369
.....	.....	.....	.....	149	93	88	92	422
1	.....	.....	.....	84	80	76	69	309
.....	.....	.....	.....	207	161	44	47	459
.....	.....	.....	.....	165	157	51	45	418
.....	.....	.....	.....	225	177	20	18	440
.....	.....	.....	.....	188	150	18	11	367
.....	.....	.....	.....	181	164	50	30	425
.....	.....	.....	.....	84	121	72	87	364
.....	.....	.....	.....	146	163	54	49	412
.....	.....	.....	.....	184	133	8	6	331
.....	.....	.....	1	168	187	103	112	570
.....	.....	.....	.....	163	189	97	89	538
.....	.....	.....	.....	149	169	62	60	440
.....	.....	.....	.....	49	45	193	195	482
.....	.....	.....	.....	152	171	76	68	467
.....	.....	.....	.....	162	139	44	51	396
.....	.....	.....	.....	186	175	8	12	381
.....	.....	.....	.....	141	154	53	47	395
.....	.....	.....	.....	111	69	70	68	318
.....	.....	.....	.....	135	114	41	32	322
.....	.....	.....	.....	192	197	2	4	395
.....	.....	.....	.....	58	23	20	11	112
.....	.....	.....	.....	.....	.....	.....	.....	.....
1	.....	.....	1	3,889	3,542	1,297	1,240	9,968
.....	.....	.....	.....	202	95	149	118	564
.....	.....	.....	.....	7	5	.....	.....	12
.....	.....	.....	.....	5	13	2	4	24

Average Age at Death, White and Colored (including Non-Residents), Years 1912, 1913 *and* 1914.

Year.	Total Deaths.	Total Ages.	Average Age at Death.
1912.			
White	7,835	313,898.79	40.063
Colored	2,606	78,995.52	30.312
1913.			
White	7,951	310,492.82	39.050
Colored	2,765	85,448.76	30.903
1914.			
White	7,914	328,686.63	41.532
Colored	2,637	84,097.56	31.891

Deaths of Non-Residents from All Causes During 1914.

Cause of Death.	White.		Colored.		Totals.
	M.	F.	M.	F.	
I—*General Diseases.*					
1. Typhoid fever	7	4	4	1	16
2. Typhus fever	....	....	....	....	....
3. Relapsing fever	....	....	....	....	....
4. Malaria	1	....	....	....	1
5. Smallpox	....	....	....	....	....
6. Measles	1	1	....	....	2
7. Scarlet fever	....	....	....	....	....
8. Whooping cough	1	....	2	....	3
9. Diphtheria and croup	2	....	....	....	2
10. Influenza	....	....	....	....	....
11. Miliary fever	....	....	....	....	....
12. Asiatic cholera	....	....	....	....	....
13. Cholera nostros	....	....	....	....	....
14. Dysentery	....	....	....	....	....
15. Plague	....	....	....	....	....
16. Yellow fever	....	....	....	....	....
17. Leprosy	....	....	....	....	....
18. Erysipelas	3	....	....	....	3
19. Other epidemic diseases	....	....	....	....	....
20. Purulent infection and septichaemia	7	1	....	....	8
21. Glanders	....	....	....	....	....
22. Anthrax	....	....	....	....	....
23. Rabies	....	....	....	....	....
24. Tetanus	3	....	1	....	4
25. Mycoses	....	....	....	....	....
26. Pellagra	....	1	....	....	1
27. Beriberi	....	....	....	....	....
28. Tuberculosis of the lungs	7	3	1	3	14
29. Acute miliary tuberculosis	1	....	*1	1	3
30. Tuberculosis meningitis	1	1	1	....	3
31. Abdominal tuberculosis	1	....	2	1	4
32. Pott's disease	2	....	....	....	2
33. White swellings	1	....	....	....	1
34. Tuberculosis of other organs	2	....	....	....	2
35. Disseminated tuberculosis	....	....	....	1	1
36. Rickets	....	....	....	....	....
37. Syphilis	3	....	1	1	5
38. Gonococcus infection	....	....	....	....	....
39. Cancer and other malignant tumors of the buccal cavity	4	....	....	....	4

*Chinese.

Deaths of Non-Residents from All Causes During 1914—Continued.

Cause of Death.	White.		Colored.		Totals.
	M.	F.	M.	F.	
40. Cancer and other malignant tumors of the stomach, liver	13	3	....	....	16
41. Cancer and other malignant tumors of the peritonaeum, intestines, rectum	9	4	....	....	13
42. Cancer and other malignant tumors of the female genital organs	.....	17	....	....	17
43. Cancer and other malignant tumors of the breast	.....	2	....	....	2
44. Cancer and other malignant tumors of the skin	3	....	....	....	3
45. Cancer and other malignant tumors of other organs and of organs not specified	13	10	....	....	23
46. Other tumors (tumors of the female genital organs excepted)	.....	....	....	....	....
47. Acute articular rheumatism	1	....	....	....	1
48. Chronic rheumatism and gout	1	....	....	....	1
49. Scurvy	.....	....	....	....	....
50. Diabetes	5	4	1	1	11
51. Exophthalmic goitre	.....	3	....	....	3
52. Addison's disease	.....	1	....	....	1
53. Leuchaemia	4	....	....	....	4
54. Anaemia, chlorosis	3	....	....	....	3
55. Other general diseases	1	....	....	....	1
56. Alcoholism (acute or chronic)	3	....	1	....	4
57. Chronic lead poisoning	.....	....	....	....	....
58. Other chronic occupation poisonings	.....	....	....	....	....
59. Other chronic poisonings	.....	....	....	....	....
II—*Diseases of the Nervous System and of the Organs of Special Sense.*					
60. Encephalitis	1	....	....	....	1
61. Simple meningitis	2	3	1	....	6
62. Locomotor ataxia	.....	....	....	....	....
63. Other diseases of the spinal cord	1	....	....	....	1
64. Cerebral haemorrhage, apoplexy	7	1	3	3	14
65. Softening of the brain	.....	....	....	....	....
66. Paralysis without specified cause	1	....	....	....	1
67. General paralysis of the insane	1	2	....	....	3
68. Other forms of mental alienation	2	....	....	....	2
69. Epilepsy	.....	....	....	....	....
70. Convulsions (nonpuerperal)	.....	....	....	....	....

Deaths of Non-Residents from All Causes During 1914—Continued.

Cause of Death.	White.		Colored.		Totals.
	M.	F.	M.	F.	
71. Convulsions of infants	....	....	....	....	....
72. Chorea	....	....	....	....	....
73. Hysteria	....	....	....	....	....
74. Other diseases of the nervous system	3	2	....	....	5
75. Diseases of the eyes and their adnexa	....	....	....	....	....
76. Diseases of the ears	....	1	....	....	1
III—*Diseases of the Circulatory System.*					
77. Pericarditis	1	1	....	....	2
78. Acute endocarditis	3	2	3	1	9
79. Organic diseases of the heart	14	3	4	2	23
80. Angina pectoris	....	1	....	....	1
81. Diseases of the arteries, atheroma, aneurysm, etc.	9	2	....	1	12
82. Embolism and thrombosis	4	....	....	....	4
83. Diseases of veins (varices, haemorrhoids, phlebitis, etc.)	....	1	....	....	1
84. Diseases of the lymphatic system (lymphangitis, etc.)	2	....	....	....	2
85. Haemorrhage; other diseases of the circulatory system	....	....	....	....	....
IV—*Diseases of the Respiratory System.*					
86. Diseases of the nasal fossae	....	....	....	....	....
87. Diseases of the larynx	....	....	1	....	1
88. Diseases of the thyreoid body	....	....	....	....	....
89. Acute bronchitis	1	....	....	....	1
90. Chronic bronchitis	....	....	....	....	....
91. Broncho-pneumonia	10	7	1	....	18
92. Pneumonia	11	3	3	1	18
93. Pleurisy	2	....	....	....	2
94. Pulmonary congestion, pulmonary apoplexy	....	....	....	....	....
95. Gangrene of the lung	....	....	....	....	....
96. Asthma	....	....	....	....	....
97. Pulmonary emphysema	....	....	....	....	....
98. Other diseases of the respiratory system (tuberculosis excepted)	1	....	....	....	1

Deaths of Non-Residents from All Causes During 1914—Continued.

Cause of Death.	White.		Colored.		Totals.
	M.	F.	M.	F.	
V—*Diseases of the Digestive System.*					
99. Diseases of the mouth and annexa		1			1
100. Diseases of the pharynx					
101. Diseases of the oesophagus					
102. Ulcer of the stomach	2				2
103. Other diseases of the stomach (cancer excepted)	1	1			2
104. Diarrhoea and enteritis (under 2 years)	5	2		1	8
105. Diarrhoea and enteritis (2 years and over)	1	2			3
106. Ankylostomiasis					
107. Intestinal parasites					
108. Appendicitis and typhlitis	17	5	5		27
109. Hernias, intestinal obstructions	13	2	4	2	21
110. Other diseases of the intestines		1	1		2
111. Acute yellow atrophy of the liver					
112. Hydatid tumor of the liver					
113. Cirrhosis of the liver	6	1	1		8
114. Biliary calculi	2	1			3
115. Other diseases of the liver	3	1	1		5
116. Diseases of the spleen					
117. Simple peritonitis (nonpuerperal)					
118. Other diseases of the digestive system (cancer and tuberculosis excepted)		2			2
VI—*Nonvenereal Diseases of the Genito-Urinary System and Annexa.*					
119. Acute nephritis	2	3	3		8
120. Bright's disease	25	6	7	1	39
121. Chyluria					
122. Other diseases of the kidneys and annexa	8	1	1		10
123. Calculi of the urinary passages	2	1			3
124. Diseases of the bladder					
125. Other diseases of the urethra, urinary abscess, etc.					
126. Diseases of the prostate	8				8
127. Nonvenereal diseases of the male genital organs					
128. Uterine haemorrhage (nonpuerperal)					
129. Uterine tumor (noncancerous)		5		1	6

Deaths of Non-Residents from All Causes During 1914—Continued.

Cause of Death.	White.		Colored.		Totals.
	M.	F.	M.	F.	
130. Other diseases of the uterus	.....	1	....	....	1
131. Cysts and other tumors of the ovary	.....	2	....	....	2
132. Salpingitis and other diseases of the female genitals	.....	....	....	....	....
133. Nonpuerperal diseases of the breast (cancer excepted)	.....	....	....	....	....
VII—*The Puerperal State.*					
134. Accidents of pregnancy	.....	1	....	....	1
135. Puerperal haemorrhage	.....	....	....	....	....
136. Other accidents of labor	.....	....	....	....	....
137. Puerperal septichaemia	.....	6	....	2	8
138. Puerperal albuminuria and convulsions	.....	....	....	1	1
139. Puerperal phleg. alba dolens, embolus, sudden death	.....	....	....	....	....
140. Following childbirth (not otherwise defined)	.....	....	....	....	....
141. Puerperal diseases of the breast	.....	....	....	....	....
VII—*Diseases of the Skin and of the Cellular Tissue.*					
142. Gangrene	.....	2	3	1	6
143. Furuncle	.....	1	....	....	1
144. Acute abscess	1	....	....	....	1
145. Other diseases of the skin and annexa	.....	1	....	....	1
IX—*Diseases of the Bones and of the Organs of Locomotion.*					
146. Diseases of the bones (tuberculosis excepted)	2	2	....	....	4
147. Diseases of joints (tuberculosis and rheumatism excepted)	.....	....	....	....	....
148. Amputations	.....	....	....	....	....
149. Other diseases of the organs of locomotion	.....	....	....	....	....
X—*Malformations.*					
150. Congenital malformations (still-births not included)	1	2	....	....	3

Deaths of Non-Residents from All Causes During 1914—Continued.

Cause of Death.	White.		Colored.		Totals.
	M.	F.	M.	F.	
XI—*Diseases of Early Infancy.*					
151. Congenital debility, icterus and sclerema.	5	3	2	1	11
152. Other diseases peculiar to early infancy.	1	1	....	....	2
153. Lack of care	.....	.....	....	....	....
XII—*Old Age.*					
154. Senility	.....	.....	....	....	....
XIII—*Affections Produced by External Causes.*					
155. Suicide by poison	2	1	....	....	3
156. Suicide by asphyxia	.....	.....	....	....	....
157. Suicide by hanging or strangulation	.....	.....	1	....	1
158. Suicide by drowning	.....	.....	....	....	....
159. Suicide by firearms	2	....	....	....	2
160. Suicide by cutting or piercing instruments	.....	.....	....	....	....
161. Suicide by jumping from a high place	.....	.....	....	....	....
162. Suicide by crushing	.....	.....	....	....	....
163. Other suicides	.....	.....	....	....	....
164. Poisoning by food	.....	.....	....	....	....
165. Other acute poisonings	.....	1	....	....	1
166. Conflagration	.....	....	1	....	1
167. Burns (conflagration excepted)	3	4	....	....	7
168. Absorption of deleterious gases (conflagration excepted)	.....	.....	....	....	....
169. Accidental drowning	.....	.....	2	....	2
170. Traumatism by firearms	.....	.....	....	....	....
171. Traumatism by cutting or piercing instruments	.....	.....	....	....	....
172. Traumatism by fall	12	3	....	....	15
173. Traumatism in mines and quarries	.....	.....	....	....	....
174. Traumatism by machines	.....	....	1	....	1
175. Traumatism by other crushing (vehicles, railroad, landslides, etc.)	22	2	3	....	27
176. Injuries by animals	2	....	....	....	2
177. Starvation	.....	.....	....	....	....
178. Excessive cold	.....	.....	....	....	....
179. Effects of heat	1	....	....	....	1
180. Lightning	.....	.....	....	....	....

Deaths of Non-Residents from All Causes During 1914—Continued.

Cause of Death.	White.		Colored.		Totals.
	M.	F.	M.	F.	
181. Electricity (lightning excepted)	....	....	....	....	....
182. Homicide by firearms	1	....	1	1	3
183. Homicide by cutting or piercing instruments	....	....	....	....	....
184. Homicide by other means	....	....	....	1	1
185. Fractures (cause not specified)	....	....	....	....	....
186. Other external violence	1	1	3	....	5
XIV—*Ill-Defined Diseases.*					
187. Ill-defined organic disease	....	....	....	....	....
188. Sudden death	....	....	....	....	....
189. Cause of death not specified or ill-defined	....	....	....	....	....
Total	330	153	71	29	583

GENERAL

Deaths of Children Under Five Years of Age in

Wards.	Under 1 Month.				Bet. 1 and 3 Mos.			
	White.		Colored		White.		Colored.	
	M.	F.	M.	F.	M.	F.	M.	F.
First	22	25	....	....	11	4	....	1
Second	18	11	....	....	7	11	....	....
Third	21	14	....	3	4	5	1	1
Fourth	13	8	5	11	2	2	6	1
Fifth	5	7	4	6	1	3	1	1
Sixth	9	15	6	3	4	1	2	3
Seventh	19	16	8	2	4	3	1	1
Eighth	16	9	....	....	6	4	1	....
Ninth	13	15	3	....	2	3	2	1
Tenth	11	9	2	....	6	1	3	3
Eleventh	5	2	3	5	4	2	2	2
Twelfth	14	8	1	5	2	5	2	1
Thirteenth	20	9	2	1	9	5	....	1
Fourteenth	17	13	8	7	36	41	4	9
Fifteenth	9	7	5	9	11	1	5	2
Sixteenth	11	6	6	6	3	2	2	1
Seventeenth	1	1	18	17	2	1	9	8
Eighteenth	9	10	6	5	11	16	1	2
Nineteenth	11	9	5	3	5	....	1	1
Twentieth	22	19	....	2	3	10	....	....
Twenty-first	8	3	2	6	2	7	3	3
Twenty-second	7	5	7	2	3	1	2	1
Twenty-third	13	7	5	1	5	7	2	2
Twenty-fourth	21	13	....	....	15	5	....	....
Bay View, not in city wards	....	1	....	....	....	....	....	....
Sydenham, not in city wards	....	....	....	....	....	....	....	....
Total	315	242	96	94	158	140	50	45

TABLE No. 2.

Each Ward, Not Including Non-Residents, Year 1914.

Bet. 3 and 12 Mos.				Bet. 1 and 2 Yrs.				Bet. 2 and 3 Yrs.				Bet. 3 and 4 Yrs.			
White.		Colored.		White.		Colored.		White.		Colored.		White.		Colored.	
M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
29	29	....	....	12	11	....	....	6	4	....	....	2	2	....	....
29	22	....	....	10	6	1	1	2	5	....	....	4	4	....	....
16	16	1	1	10	11	1	2	2	1	....	....	3	2	....	1
4	3	12	8	6	....	10	3	....	1	2	1	....	....	2	2
5	8	4	4	5	5	2	4	....	1	....	3	....	....	....	....
12	7	....	4	6	5	3	1	3	....	....	....	1	1	....	....
16	8	6	3	4	7	4	2	1	6	3	....	4	1	3	....
19	11	4	2	9	7	1	2	4	....	....	....	3	1	....	1
10	5	4	2	6	3	....	1	....	....	....	....	....	....	....	....
14	5	....	3	9	6	1	1	3	....	1	....	1	....	....	1
1	3	6	10	1	....	3	3	....	....	4	2	....	....	....	1
6	3	9	4	4	1	3	2	2	1	1	....	1	....	1	2
11	7	....	2	10	3	....	....	5	2	....	....	....	2	....	....
22	30	9	3	9	4	4	1	3	1	2	1	3	1	....	1
9	8	10	8	1	1	9	6	3	....	4	3	....	....	2	2
9	4	7	5	....	2	4	5	1	2	1	....	....	1	1	....
2	1	17	13	....	1	7	6	....	....	....	3	....	....	7	1
11	18	9	7	4	6	4	1	4	1	....	1	2	1	2	....
14	13	7	3	2	4	3	1	1	1	....	....	....	....	1	....
7	13	1	....	7	3	1	....	....	4	....	....	....	1	1	....
13	17	11	4	9	6	4	3	1	3	....	....	....	2	....	....
13	3	2	2	3	4	1	2	....	1	....	2	3	1	....	....
15	10	3	7	10	6	2	1	3	1	1	....	....	2	1	1
20	27	....	....	8	12	....	....	2	4	....	....	4	1	....	....
....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
307	271	122	95	145	114	68	48	46	39	19	16	31	23	21	13

Continued on next page.

GENERAL TABLE No. 2 (Continued).

Deaths of Children Under Five Years of Age in Each Ward, Not Including Non-Residents, Year 1914.

Wards.	Bet. 4 and 5 Yrs.				Total.				Grand Total.
	White.		Colored.		White.		Colored.		
	M.	F.	M.	F.	M.	F.	M.	F.	
First	4	....	....	....	86	75	....	1	162
Second	1	2	....	....	71	61	1	1	134
Third	1	1	....	....	57	50	3	8	118
Fourth	....	....	....	2	25	14	37	28	104
Fifth	....	....	....	....	16	24	11	18	69
Sixth	1	1	....	2	36	30	11	13	90
Seventh	2	1	....	....	50	42	25	8	125
Eighth	....	....	2	....	57	32	8	5	102
Ninth	1	2	....	....	32	28	9	4	73
Tenth	....	2	....	....	44	23	7	8	82
Eleventh	....	....	1	3	11	7	19	26	63
Twelfth	....	1	....	1	29	19	17	15	80
Thirteenth	....	....	....	....	55	28	2	4	89
Fourteenth	1	....	1	....	91	90	28	22	231
Fifteenth	2	1	2	....	35	18	37	30	120
Sixteenth	....	2	2	1	24	19	23	18	84
Seventeenth	....	....	....	....	5	4	58	48	115
Eighteenth	3	2	....	1	44	54	22	17	137
Nineteenth	1	1	....	....	34	28	17	8	87
Twentieth	....	....	....	....	39	50	3	2	94
Twenty-first	....	1	....	1	33	39	20	17	109
Twenty-second	1	....	....	....	30	15	12	9	66
Twenty-third	1	....	....	....	47	33	14	12	106
Twenty-fourth	3	1	....	1	73	63	....	1	137
Bay View, not in city wards	....	....	....	....	....	1	....	....	1
Sydenham, not in city wards	....	....	....	....	....	....	....	....	.....
Total	22	18	8	12	1,024	847	384	323	2,578

TUBERCULOSIS.

TABLE NO. 1—*Total Death Rate and Death Rates for White and Colored Population, Based on Census of* 1910, *from* 1903 *to* 1914, *Inclusive.*

YEAR.	Estimated Population.*	Total Deaths.	Death Date per 1,000 of Population.	White. No. of Deaths.	White. Death Rate per 1,000.	Colored. No. of Deaths.	Colored. Death Rate per 1,000.	Chinamen.
1903	524,407	1,323	2.523	906	2.045	416	5.109	1
1904	529,423	1,473	2.781	1,022	2.283	451	5.502	...
1905	534,439	1,423	2.662	940	2.079	482	5.842	1
1906	539,455	1,461	2.704	988	2.164	470	5.659	3
1907	544,471	1,441	2.647	950	2.061	490	5.862	1
1908	549,497	1,379	2.509	926	1.989	453	5.385	...
1909	554,513	1,403	2.530	909	1.934	491	5.799	3
1910	559,529	1,385	2.475	885	1.866	478	5.610	2
1911	564,547	1,344	2.381	846	1.765	497	5.795	1
1912	569,561	1,346	2.363	866	1.791	480	5.575	...
1913	574,577	1,345	2.514	837	1.716	507	5.850	1
1914	579,593	1,314	2.267	841	1.708	473	5.413	...

*Corrected to July 1 of each year, according to census of 1910.

TUBERCULOSIS (ALL FORMS).

TABLE NO. 2—*Deaths Due to Tuberculosis Each Month in the Year* 1914, *by Sex and Color.*

MONTHS.	Non-Residents.	Sex.		Color.		Total.*
		Male.	Female.	White.	Colored.	
January	6	61	50	69	42	111
February	3	79	54	89	44	133
March	5	95	58	108	45	153
April	2	66	53	72	47	119
May	1	67	41	66	42	108
June	1	52	48	59	41	100
July	2	62	45	75	32	107
August	4	52	31	45	38	83
September	3	64	34	58	40	98
October	1	46	43	52	37	89
November	.....	60	31	63	28	91
December	2	74	48	85	37	122
Total	30	778	536	841	473	1,314

*Non-residents not included.

TUBERCULOSIS.

TABLE NO. 3—*Deaths Due to Tuberculosis, Arranged According to Occupation, Year* 1914.

Attorneys	1	Engineers (electrical)	1
Artists	1	Engineers (marine)	1
Actors	2	Engineers (mechanical)	1
Agents (insurance)	2	Engineers (civil)	1
Agents (real estate)	1	Engineers (stationary engine)	3
Brewers	2	Elevator boys	2
Bakers	2	Foremen	2
Barbers	8	Furniture movers	1
Bartenders	6	Factory hands	4
Boilermakers	1	Farmers	2
Bottlers	3	Farm laborers	6
Butchers	3	Firemen (stationary engine)	2
Bell boys	1	Grocers	1
Builders and contractors	5	Glassblowers	1
Brassworkers	3	Harnessmakers	1
Bricklayers	4	Hatters	2
Blacksmiths	3	Horse trainers	1
Boxmakers	5	Housewives	175
Bootblacks	5	Hodcarriers	2
Bookkeepers, clerks	45	Hucksters	5
Broommakers	1	Hostlers	3
Boat captains	1	Inspectors	2
Bookbinders	1	Ironworkers	7
Carpenters	11	Ice dealers	1
Candymakers	2	Jobbers	3
Chambermaids	3	Jockeys	1
Caulkers	1	Janitors	1
Chauffeurs	1	Laborers	188
Coal dealers	1	Launderers or laundresses	24
Cabinetmakers	4	Laundry work (steam)	2
Collectors	1	Lawyers	1
Coachmen	1	Laboratory workers	1
Clergymen	1	Lamp lighters	1
Canmakers	5	Livery stable keepers	1
Cigarmakers	10	Locksmiths	1
Cooks	16	Lumbermen	2
Coopers	1	Machinists	6
Cutters	10	Polishers	5
Cloth pressers	1	Manufacturers	2
Decorators (house)	1	Moulders	6
Drivers	20	Merchants	10
Dressmakers and seamstresses	12	Managers	2
Dentists	1	Mechanics	1
Distillers (except turpentine)	1	Metal workers	1
Domestics	118	Messengers	3
Electrical workers	3	Meter workers	2

TUBERCULOSIS.

TABLE No. 3 (Continued)—*Deaths Due to Tuberculosis, Arranged According to Occupation, Year* 1914.

Mill hands	1	Shirt factory hands	1
Mariners	3	Shoemakers	5
Ministers	2	Stone cutters	2
Musicians	4	Steel workers	1
Nurses	2	Ship carpenters	2
Office girls and boys	3	Storekeepers	1
Oyster shuckers	4	Servants	8
Oilers (not specified)	1	Superintendents	1
Operators	2	Steamfitters	2
Painters	9	Stenographers	2
Plasterers	3	Stevedores	14
Packers	2	School children	34
Paperhangers	5	Soldiers	1
Physicians	3	Tobacco workers	1
Plumbers	2	Tailors or tailoresses	16
Policemen and watchmen	2	Tanners	1
Post Office employes	2	Teamsters	4
City employes	1	Teachers	4
Produce dealers	1	Tinners	1
Porters	13	Tobacco workers	1
Printers and engravers	8	Telegraph operators	1
Religieuse	3	Telephone operators	2
Processors	1	Upholsterers	2
Riggers	1	Undertakers	1
Reporters	1	Varnishers	1
Roofers	1	Waiters	16
Saloonkeepers	1	Waitresses	3
Salesmen	15	Watchmakers	1
Saleswomen	3	Weavers	1
Seamen	13	Window cleaners	1
Solicitors	2	Woodworkers	1
Steam railway employes	14	Woodsawyers	2
Street railway employes	5	No occupation	225

Social Condition.

Married	555	Divorced	16
Single	588	Unknown	9
Widows	77		
Widowers	69	Total	1,314

TUBERCULOSIS (ALL FORMS).

TABLE No. 4—*Deaths According to Wards, Sex, Color and*

WARDS.	January.				February.			
	White.		Colored.		White.		Colored.	
	M.	F.	M.	F.	M.	F.	M.	F.
First	1	1	....	....	1	2	....	....
Second	6	2	1	....	1	2	....	....
Third	1	1	....	....	1	....	1	1
Fourth	1	1	1	1	5	2	1	2
Fifth	....	....	2	2	....	2	2	....
Sixth	3	....	2	....	5	1	1	1
Seventh	3	1	1	2	3	3	1	2
Eighth	5	1	....	....	2	2	....	....
Ninth	5	3	....	....	3	4	....	1
Tenth	2	2	1	....	1	....	....	1
Eleventh	....	1	....	1	2	3	2	....
Twelfth	....	1	....	1	2	2	1	1
Thirteenth	1	2	....	....	....	....	....	....
Fourteenth	....	1	1	3	1	....	2	2
Fifteenth	1	....	3	....	3	2	5	1
Sixteenth	1	2	1	1	1	3	3	....
Seventeenth	2	....	3	7	....	....	5	1
Eighteenth	....	2	....	1	4	....	2	1
Nineteenth	1	1	1	....	1	1	....	....
Twentieth	1	1	....	1	4	2	....	....
Twenty-first	....	1	1	....	6	2	....	....
Twenty-second	4	1	1	1	1	2	1	2
Twenty-third	....	....	....	1	1	2	1	....
Twenty-fourth	3	2	....	....	2	1	....	....
Bay View, not in wards	1	....	....	1	1	....	....	....
Sydenham	....	....	....	....	....	....	....	....
Total	42	27	19	23	51	38	28	16
Bay View, in wards	9	2	5	2	8	1	9	5
Mt. Wilson, in wards	....	....	....	....	....	....	....	....
Sanatoria, not included in above table	6	1	....	....	10	3	....	....

TUBERCULOSIS (ALL FORMS).

Calendar Months, Not Including Non-Residents, Year 1914.

March.				April.				May.				June.			
White.		Colored.		White.		Colored.		White.		Colored.		White.		Colored.	
M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
2	1	....	....	2	1	....	....	6	2	....	....	1	4	....	....
5	....	....	....	4	1	....	....	3	2	....	1	2	2	....	....
5	....	....	....	2	....	....	....	2	....	1	2	1	2	....	1
1	1	1	2	1	1	2	1	....	....	....	....	1	2	....	2
4	....	2	1	....	....	3	3	....	....	1	1	1	....	....	2
5	....	....	2	3	3	....	1	3	1	1	....	4	....	1	1
4	....	1	1	....	4	3	....	2	1	....	....	1	2	....	2
8	4	....	1	3	3	....	....	2	1	1	....	3	2	1	....
4	3	....	....	3	1	....	....	3	1	1	....	....	1	....	1
2	5	4	1	1	....	1	....	2	....	1	....	1	....	1	3
....	1	4	....	1	1	3	2	....	....	1	1	....	....	3	4
2	3	....	1	1	....	....	....	....	2	1	1	2	1	3	....
3	1	....	....	3	1	....	....	2	2	....	....	1	1	....	....
2	1	2	2	2	....	1	1	....	1	3	....	2	....	4	....
1	2	1	3	1	2	2	4	....	....	2	2	1	2	....	....
1	....	1	1	1	2	1	....	2	2	1	1	1	....	....	....
3	....	4	2	....	....	5	3	2	....	4	3	....	1	3	2
4	3	2	....	1	1	2	3	....	1	2	....	2	1	....	2
3	....	....	1	2	1	....	2	2	1	1	2	1	2	....	....
2	3	....	1	5	3	....	....	1	2	....	....	3	1	....	....
5	1	....	1	1	1	....	1	....	1	1	1	3	....	1	....
....	....	....	3	....	1	....	1	4	....	1	2	....	1	2	....
1	3	....	....	1	1	1	1	1	1	....	....	....	1	....	....
4	2	....	....	3	2	....	....	3	3	....	....	....	1	....	....
2	1	....	....	1	....	....	....	2	....	2	....	1	....	1	1
....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
73	35	22	23	42	30	24	23	42	24	25	17	32	27	20	21
10	2	5	5	4	1	6	3	10	1	5	5	9	5	2	4
....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
4	2	....	....	8	1	....	....	5	....	....	....	3	1	....	....

Continued on next page.

TUBERCULOSIS (ALL FORMS).

TABLE No. 4 (Continued)—*Deaths According to Wards, Sex, Color*

WARDS.	July				August				September			
	White.		Colored.		White.		Colored.		White.		Colored.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
First	4	3	....	....	1	....	....	....	2	3	....	....
Second	3	....	....	....	1	....	....	....	1	2	....	....
Third	1	2	....	....	2	....	....	1	4	1	....	3
Fourth	2	2	2	....	1	....	2	1	1	....	4	1
Fifth	....	....	....	2	1	....	1	2	1	2	2	1
Sixth	2	3	....	1	3	1	....	3	4	2	....	1
Seventh	3	1	1	....	1	3	1	....	4	1	....	....
Eighth	3	5	2	2	2	1	....	....	1	1	1	1
Ninth	3	....	....	....	1	2	....	....	1	....	1	....
Tenth	1	1	....	....	2	....	3	....	....	3	3	2
Eleventh	....	....	1	1	1	....	3	3	1	....	1	....
Twelfth	....	....	1	....	2	2	1	1	3	....	2	....
Thirteenth	2	2	....	....	....	....	....	....	3	....	....	....
Fourteenth	....	1	4	1	2	2	2	....	....	....	2	1
Fifteenth	2	2	....	2	1	....	2	1	1	1	1	1
Sixteenth	1	1	....	1	1	....	1	....	2	....	1	....
Seventeenth	1	....	2	3	1	....	....	1	....	....	1	1
Eighteenth	6	....	1	1	2	....	2	1	....	1	1	1
Nineteenth	1	2	....	1	1	....	....	....	3	....	....	1
Twentieth	1	1	....	....	1	1	....	1	1	1	....	....
Twenty-first	2	1	1	....	....	1	....	1	1	....	1	....
Twenty-second	2	....	1	....	1	....	3	....	2	....	3	2
Twenty-third	2	....	....	1	1	1	....	1	2	....	....	....
Twenty-fourth	3	1	....	....	2	....	....	....	....	....	....	....
Bay View, not in wards	1	1	....	....	....	....	....	....	2	....	....	....
Sydenham	....	....	....	....	....	....	....	....	....	....	....	....
Total	46	29	16	16	31	14	21	17	40	18	24	16
Bay View, in wards	13	1	7	2	7	1	7	8	7	4	7	3
Mt. Wilson, in wards	....	....	....	....	1	....	....	....	....	....	....	....
Sanatoria, not included in above table	1	4	....	....	4	2	....	....	3	1	....	....

TUBERCULOSIS (ALL FORMS).

and Calendar Months, Not Including Non-Residents, Year 1914.

October.				November.				December.				Total.			
White.		Colored.		White.		Colored.		White.		Colored.		White.		Colored.	
M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
6	....	....	....	2	....	....	....	2	3	....	....	30	20	....	....
2	3	....	....	1	2	....	....	5	2	....	....	34	18	1	1
3	1	1	1	2	1	1	1	2	....	3	....	26	8	7	10
....	1	....	2	2	....	....	1	2	3	2	....	17	13	15	13
....	1	2	....	1	....	5	1	4	....	2	....	12	5	22	15
4	1	2	2	1	1	1	....	3	2	1	1	40	15	9	13
1	3	....	1	2	....	....	1	4	....	....	....	28	19	8	9
....	....	....	....	1	....	....	....	2	....	....	....	32	20	5	4
3	....	....	....	4	....	1	....	4	1	....	....	34	16	3	2
1	2	1	3	2	2	1	....	2	2	1	....	17	17	17	10
....	1	....	....	....	1	....	2	1	2	....	1	6	10	18	15
1	1	....	2	....	1	1	....	....	2	....	1	13	15	10	8
....	1	....	....	1	....	....	....	2	1	1	....	18	11	1	....
....	....	4	1	2	....	....	3	....	....	1	1	11	6	26	15
1	....	1	1	3	1	....	....	2	....	....	1	17	12	17	16
....	1	1	1	3	2	1	....	2	1	....	1	16	14	11	6
....	1	2	2	2	2	2	1	2	....	6	2	13	4	37	28
1	....	....	2	....	2	....	....	1	3	1	2	21	14	13	14
3	....	1	....	....	2	2	....	2	2	1	....	20	12	6	7
....	1	1	....	1	1	1	....	5	....	....	2	25	17	2	5
....	....	....	....	2	....	....	....	2	3	2	1	22	11	7	5
....	....	2	1	4	....	1	1	....	....	....	2	18	5	15	15
....	2	....	....	1	....	....	....	2	1	....	1	12	12	2	5
....	4	....	....	4	2	....	....	2	3	....	....	26	21	....	....
2	....	....	....	2	....	....	....	....	1	....	....	15	3	3	2
....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
28	24	18	19	43	20	17	11	53	32	21	16	523	318	255	218
7	2	7	6	8	1	3	1	7	4	4	6	99	25	67	50
....	....	....	....	....	....	....	....	....	....	....	....	1	....	....	....
9	6	....	....	5	3	....	....	....	1	....	....	58	25	....	....

TUBERCULOSIS.

TABLE No. 5—*Deaths by Age, Sex, Color and Average*

AGES.	January.				February.			
	White.		Colored.		White.		Colored.	
	M.	F.	M.	F.	M.	F.	M.	F.
Under 1 month	....	....	....	....	....	....	....	....
Bet. 1 and 3 mos.	....	....	....	....	....	....	....	....
Bet. 3 and 12 mos.	....	....	....	....	....	....	1	....
Bet. 1 and 2 yrs.	1	....	1	....	....	1	2	1
Bet. 2 and 3 yrs.	....	....	....	....	2	....	1	....
Bet. 3 and 4 yrs.	....	....	....	....	....	....	....	1
Bet. 4 and 5 yrs.	....	....	....	....	....	....	....	....
Bet. 5 and 9 yrs.	1	1	2	3	1	1	....	....
Bet. 10 and 14 yrs.	....	1	....	1	1	....	....	1
Bet. 15 and 19 yrs.	1	2	1	....	2	2	3	....
Bet. 20 and 24 yrs.	4	5	3	4	5	3	3	2
Bet. 25 and 29 yrs.	6	6	4	4	7	3	3	....
Bet. 30 and 34 yrs.	3	1	2	2	4	8	3	2
Bet. 35 and 39 yrs.	4	4	1	3	4	3	2	2
Bet. 40 and 44 yrs.	7	2	2	4	6	3	3	4
Bet. 45 and 49 yrs.	2	1	1	....	5	3	4	2
Bet. 50 and 54 yrs.	3	1	1	....	4	1	2	1
Bet. 55 and 59 yrs.	5	1	1	1	3	5	....	....
Bet. 60 and 64 yrs.	3	1	....	....	6	3	1	....
Bet. 65 and 69 yrs.	1	....	....	....	1	1	....	....
Bet. 70 and 74 yrs.	1	....	....	1	....	1	....	....
Bet. 75 and 79 yrs.	....	1	....	....	....	....	....	....
Bet. 80 and 84 yrs.	....	....	....	....	....	....	....	....
Bet. 85 and 89 yrs.	....	....	....	....	....	....	....	....
Bet. 90 and 94 yrs.	....	....	....	....	....	....	....	....
Bet. 95 and 99 yrs.	....	....	....	....	....	....	....	....
Total	42	27	19	23	51	38	28	16

TUBERCULOSIS.

Age at Death, and Social Condition, Year 1914.

March.				April.				May.				June.			
White.		Colored.		White.		Colored.		White.		Colored.		White.		Colored.	
M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
1	....	....	....	....	....	....	....	1	1	....	....	....	....	....	....
2	2	1	....	2	2	....	....	2	....	....	....	....	....	....	....
1	2	....	....	1	....	....	2	....	2	....	....	....	....	....	....
....	....	....	2	....	....	1	....	1	....	....	....	1	....	....	....
1	....	1	....	1	....	1	....	....	....	....	....	....	....	....	....
....	1	....	....	....	....	....	....	....	....	....	....	....	....	....	1
2	....	....	....	....	1	....	....	....	....	....	2	....	1	1	1
1	....	....	1	....	....	1	....	....	....	....	1	1	1	1	2
....	4	2	6	2	1	1	2	....	1	3	1	1	6	....	2
10	4	3	3	3	2	6	7	2	6	3	3	6	6	2	2
10	3	1	2	3	8	1	5	4	3	3	2	3	3	3	3
8	3	1	1	7	2	4	3	7	1	1	5	3	2	2	....
9	....	5	3	7	2	2	1	4	4	4	....	5	2	4	5
11	2	2	3	1	3	3	2	7	....	4	1	3	2	2	1
3	1	4	....	4	3	2	....	3	1	4	1	3	2	3	3
5	1	1	2	6	....	....	....	3	....	1	....	3	....	....	1
4	2	....	....	5	1	1	....	2	1	....	....	1	1	1	....
2	5	....	....	....	2	1	....	....	....	1	1	2	....	....	....
1	2	1	....	....	....	....	....	3	1	....	....	....	1	....	....
2	2	....	....	....	1	....	....	3	1	1	....	....	....	....	....
....	....	....	....	....	1	....	....	....	1	....	....	....	....	....	....
....	1	....	....	....	1	....	1	....	1	....	....	....	....	1	....
....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
73	35	22	23	42	30	24	23	42	24	25	17	32	27	20	21

Continued on next page.

TUBERCULOSIS.

TABLE NO. 5 (Continued)—*Deaths by Age, Sex, Color and*

AGES.	July.				August.				September.			
	White.		Colored.		White.		Colored.		White.		Colored.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Under 1 month....	....	....	....	....	....	....	....	....	....	....	....	....
Bet. 1 and 3 mos...	....	....	....	....	1	....	....	....	....	....	....	....
Bet. 3 and 12 mos...	1	....	1	....	2	....	....	....	1	1	1	....
Bet. 1 and 2 yrs...	....	....	1	....	2	1	2	....	1	....	1	1
Bet. 2 and 3 yrs...	....	....	....	....	1	....	1	....	....	....	....	....
Bet. 3 and 4 yrs...	....	....	....	....	....	1	1	....	1	....	....	1
Bet. 4 and 5 yrs...	....	1	....	....	....	....	....	....	....	....	....	....
Bet. 5 and 9 yrs...	....	1	....	3	....	....	1	....	....	1	1	....
Bet. 10 and 14 yrs...	....	....	....	....	....	....	....	1	1	....	1	....
Bet. 15 and 19 yrs...	2	1	1	3	1	2	2	2	1	1	....	3
Bet. 20 and 24 yrs...	3	8	3	1	3	1	3	5	1	3	2	2
Bet. 25 and 29 yrs...	3	1	2	4	1	3	2	3	9	3	5	1
Bet. 30 and 34 yrs...	8	2	....	....	1	....	2	....	2	3	4	1
Bet. 35 and 39 yrs...	4	3	1	2	5	2	5	1	5	3	4	2
Bet. 40 and 44 yrs...	11	5	3	1	5	3	....	2	5	1	1	2
Bet. 45 and 49 yrs...	6	1	1	1	....	....	1	1	4	....	2	1
Bet. 50 and 54 yrs...	1	....	....	1	5	....	....	1	4	1	1	1
Bet. 55 and 59 yrs...	4	4	2	....	2	....	1	1	2	1	1	....
Bet. 60 and 64 yrs...	....	1	1	....	1	....	....	....	1	....	....	....
Bet. 65 and 69 yrs...	1	....	....	....	....	....	....	....	2	....	....	....
Bet. 70 and 74 yrs...	1	....	....	....	1	1	....	....	....	....	....	1
Bet. 75 and 79 yrs...	....	1	....	....	....	....	....	....	....	....	....	....
Bet. 80 and 84 yrs...	1	....	....	....	....	....	....	....	....	....	....	....
Bet. 85 and 89 yrs...	....	....	....	....	....	....	....	....	....	....	....	....
Bet. 90 and 94 yrs...	....	....	....	....	....	....	....	....	....	....	....	....
Bet. 95 and 99 yrs...	....	....	....	....	....	....	....	....	....	....	....	....
Total.....	46	29	16	16	31	14	21	17	40	18	24	16

TUBERCULOSIS.

Average Age at Death, and Social Condition, Year 1914.

October.				November.				December.				Total.			
White.		Colored.		White.		Colored.		White.		Colored.		White.		Colored.	
M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
....	....	....	....	....	....	....	....	....	....	1	....	3	1	1	....
....	....	....	....	....	....	....	....	....	....	....	1	10	5	4	1
1	1	....	....	....	1	....	....	1	....	....	....	8	8	7	4
....	....	....	....	2	1	....	....	1	....	....	....	8	1	3	2
....	2	....	....	....	....	....	1	1	....	....	....	4	3	3	3
....	....	....	....	1	....	....	....	....	....	....	....	1	2	....	1
....	....	....	1	....	....	....	1	1	....	1	....	5	6	6	11
....	....	....	....	1	1	1	2	....	....	....	1	5	3	4	10
....	3	....	1	1	1	2	2	1	4	1	1	12	28	16	23
1	6	1	4	4	3	4	....	7	6	2	2	49	53	35	35
5	2	3	5	2	3	1	3	3	4	1	5	56	42	29	37
2	1	4	2	5	2	1	2	8	4	4	1	58	29	28	19
3	1	1	....	5	1	2	....	6	6	3	2	61	31	34	21
3	....	4	2	5	3	2	....	3	2	3	1	67	26	29	23
2	2	....	2	4	1	1	....	8	2	2	1	44	17	25	12
2	3	2	....	4	1	....	....	4	1	3	1	44	9	11	8
2	1	1	....	4	1	2	....	3	1	....	....	37	19	10	2
3	1	1	2	2	....	1	....	2	2	....	....	22	15	6	3
1	....	1	....	1	....	....	....	2	....	....	....	13	5	2	....
2	....	....	....	2	....	....	....	2	....	....	....	14	6	1	2
1	1	....	....	....	1	....	....	....	....	....	....	1	6	....	....
....	....	....	....	....	....	....	....	....	....	....	....	1	3	1	1
....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
28	24	18	19	43	20	17	11	53	32	21	16	523	318	255	218

Continued on next page.

TUBERCULOSIS.

TABLE No. 5 (Continued)—*Average Age at Death.*

	White.	Colored.	Total Deaths.
All ages	36.659	30.728	1,314
Five years and under	1.749	2.263	84
Five to nineteen years, inclusive.	15.343	14.850	140
Twenty years and over	41.047	36.520	1,090
Single	26.633	22.575	588
Married	40.782	36.560	555
Widows	57.525	42.236	78
Widowers	54.217	50.241	68
Divorced	44.725	42.314	16
Unknown social condition	59.250	47.200	9

TUBERCULOSIS.

TABLE No 6—*Deaths Each Month from Pulmonary Tuberculosis*

MONTHS.	1900		1901		1902		1903		1904		1905	
	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.
January	56	20	91	27	72	29	69	33	83	37	70	41
February	54	32	69	22	46	26	67	24	105	37	58	25
March	75	39	79	33	69	31	74	35	94	40	77	26
April	48	36	62	38	78	36	79	36	85	44	75	42
May	55	25	55	38	69	48	60	40	75	49	75	40
June	52	24	62	23	56	44	64	26	73	32	75	31
July	55	26	65	28	48	24	60	37	69	41	56	49
August	69	24	56	30	72	18	53	34	62	31	54	33
September	50	37	60	31	69	37	70	22	69	42	70	31
October	67	22	58	30	65	27	64	28	67	34	56	33
November	72	21	60	25	75	24	71	31	70	27	76	36
December	70	27	64	32	62	34	81	29	62	21	69	38
Total	723	333	781	357	781	378	811	375	914	435	811	425

TUBERCULOSIS.

According to Color, from 1900 *to* 1914, *Inclusive.*

1906		1907		1908		1909		1910		1911		1912		1913		1914	
W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.
63	27	105	47	101	39	78	45	72	39	81	33	88	32	77	58	69	42
97	22	98	40	70	37	68	39	74	41	77	51	91	36	75	41	89	44
84	41	106	62	95	40	98	51	98	39	88	45	87	46	83	52	108	45
72	32	72	41	83	56	94	51	81	48	82	37	85	44	74	41	72	47
68	36	76	43	80	34	76	33	73	46	76	57	72	47	85	59	66	42
64	28	75	39	72	33	60	35	60	34	71	52	58	45	72	44	59	41
62	40	64	43	85	52	57	42	73	44	59	37	75	47	51	52	75	32
48	34	76	37	80	32	88	41	64	44	56	42	57	25	64	39	45	38
62	25	60	28	51	36	65	46	77	31	61	29	51	30	72	24	58	40
83	42	73	32	67	34	73	46	63	40	61	40	63	56	59	33	52	37
84	40	65	26	68	28	72	27	77	36	62	35	79	33	61	36	63	28
93	48	81	51	74	32	80	35	73	38	72	40	60	39	64	29	85	37
880	415	951	489	926	453	909	491	885	480	846	498	866	480	837	508	841	473

TUBERCULOSIS.

TABLE No. 6-A—*Number of Deaths From All Other Forms of Tuberculosis, They Are Included in Table No. 6 Since* 1907.

YEAR.	White.	Colored.
1907	116	68
1908	135	40
1909	133	52
1910	112	52
1911	140	78
1912	111	49
1913	112	74
1914	107	78

TUBERCULOSIS.

TABLE NO. 7—*Deaths Due to Tuberculosis of City Residents at Sabillasville, Year* 1914.

MONTH.	ADDRESS.	White.		Age.		
		Male.	Female.	Years.	Months.	Days.
January	202 N. Pine St.	1		37	3	19
January	803 Eastern Ave.		1	19		
January	1405 E. Federal St.	1		33		
January	1637 Eager St.	1		18		
January	431 E. Lanvale St.	1		52		
January	412 W. Saratoga St.	1		47		
February	1023 Arlington Ave.	1		29		
February	32 N. Lakewood Ave.	1		60		
February	5 Caton Ave.		1	21		
February	810 Ensor St.	1		25	10	1
February	1053 N. Central Ave.	1		43		
February	31 Wrenwood Ave.	1		29		
February	1845 Harford Ave.		1	17		
February	51 McPhail St.	1		47		
March	324 Ashton St.	1		47		
March	843 Hollins St.	1		28		
March	1847 N. Chester St.	1		47		
March	2109 McElderry St.	1		30		
March	419 N. Port St.		1	30		
April	1551 Ensor St.	1		21	11	27
April	730 George St.	1		49		
April	419 E. Preston St.	1		18		
April	316 E. Federal St.	1		48		
April	1358 N. Fremont Ave.	1		26		
May	715 S. Luzerne St.	1		53		
May	4129 Park Heights Ave.	1		21		
May	1515 Aisquith St.	1		51	5	17
May	418 N. Kenwood Ave.	1		39		
June	3935 Greenmount Ave.	1		27	7	24
July	918 N. Bradford St.		1	45	6	4
July	621 E. Twenty-eighth St.	1		31	11	23
July	2823 Pennsylvania Ave.		1	32	5	6
August	1502 W. Franklin St.		1	44	1	2
August	309 N. Payson St.	1		42	3	6
August	608 S. Bethel St.	1		38	4	25
September	3706 Clifton Ave.	1		56		
September	414 N. Carrollton Ave.	1		44		9
September	449 Lorraine Ave.	1		46	5	7

TUBERCULOSIS.

TABLE No. 7 (Continued)—*Deaths Due to Tuberculosis of City Residents at Sabillasville, Year* 1914.

MONTH.	ADDRESS.	White.		Age.		
		Male.	Female.	Years.	Months.	Days.
October	736 W. Saratoga St.		1	62		
October	541 Mission Court	1		33	2	15
October	122 S. Patterson Pk. Av.	1		27	4	25
October	616 Forrest St.		1	41	11	14
October	816 E. Pratt St.	1		34	8	21
October	104 S. Payson St.	1		19		
October	City	1		58	3	21
October	1105 Bolton St.		1	29	3	19
October	906 W. Fayette St.		1	37	8	20
October	700 Druid Hill Ave.	1		37	4	3
October	314 N. Greene St.	1		36		
November	1278 Battery Ave.		1	15		
November	2224 Cambridge St.	1		21		
November	3735 Morley St.	1		42		
November	1104 Riverside Ave.	1		49		
November	1210 Aisquith St.		1	22	3	5
November	3401 Myrtle Place	1		25		
Total		42	13			

TUBERCULOSIS.

TABLE No. 8—*Deaths Due to Tuberculosis of City Residents at Eudowood, Year* 1914.

MONTH.	ADDRESS.	White.		Age.		
		Male.	Female.	Years.	Months.	Days.
February	1033 Forrest St.	1		22		
February	706 Mosher St.	1		55	1	22
February	City	1		32	8	4
February	1333 Hillman St.	1		37	9	10
March	1457 Homestead St.		1	28	2	7
April	324 E. Twenty-first St.	1		40	10	16
April	2003 Ashland Ave.	1		17	2	11
April	2422 McCulloh St.		1	42	3	25
April	1045 N. Durham St.	1		41	3	3
June	520 E. Twenty-first St.	1		22	6	24
June	1100 Greenmount Ave.		1	41	3	2
July	308 N. Stricker St.		1	29	8	1
August	719 Columbia Ave.		1	25	7	10
August	827 Forrest St.	1		38		
August	608 N. Calvert St.	1		34	9	20
September	1938 Mosher St.		1	52		21
December	1712 Westwood Ave.		1	31	6	5
Total		10	7			

TUBERCULOSIS.

TABLE No. 9—*Deaths Due to Tuberculosis of City Residents at Jewish Home, Year* 1914.

MONTH.	ADDRESS.	White.		Age.		
		Male.	Female.	Years.	Months.	Days.
January	250 Harrison St.	1		23		
February	City		1	68		
May	709 S. Charles St.	1		22		
June	2534 McCulloh St.	1		23	5	
August	1624 E. Madison St.		1	26		
October	309 N. Eden St.		1	20	6	15
October	201 N. Eden St.		1	32		
October	127 S. Central Ave.	1		32	4	
October	507 S. Bond St.	1		44		
November	3 W. Lee St.	1		50		
November	1819 E. Fairmount Ave.		1	19		
Total		6	5			

PNEUMONIA (LOBAR).

TABLE No. 1—*Total Death Rate and Death Rates for White and Colored Population, Based on Census of* 1910, *from* 1903 *to* 1914, *Inclusive.*

YEAR.	Estimated Population.*	Total Deaths.	Death Rate per 1,000 of Population.	White. No. of Deaths.	White. Death Rate per 1,000.	Colored. No. of Deaths.	Colored. Death Rate per 1,000.
1903	524,407	789	1.506	518	1.169	271	3.328
1904	529,423	892	1.685	587	1.312	305	3.721
1905	534,439	800	1.497	530	1.172	270	3.272
1906	539,455	696	1.290	445	0.975	251	3.022
1907	544,471	743	1.365	475	1.030	268	3.206
1908	549,497	615	1.101	385	0.827	230	2.734
1909	554,513	705	1.271	475	1.010	230	2.716
1910	559,529	677	1.210	497	1.048	180	2.112
1911	564,547	684	1.212	441	0.921	243	2.834
1912	569,561	560	0.983	349	0.722	211	2.445
1913	574,577	634	1.103	422	0.865	212	2.441
1914	579,593	611	1.054	413	0.839	198	2.266

*Corrected to July 1 of each year, according to census of 1910.

PNEUMONIA (LOBAR).

TABLE No. 2—*Deaths According to Wards,*

WARDS.	January.				February.			
	White.		Colored.		White.		Colored.	
	M.	F.	M.	F.	M.	F.	M.	F.
First	2	2	....	....	1	3	....	....
Second	3	2	....	....	....	1	....	....
Third	1	2	1	....	3	2	1	....
Fourth	3	1	....	2	....	....	....	....
Fifth	....	....	1	....	....	1	1	....
Sixth	4	1	....	....	3	....	....	1
Seventh	....	1	1	1	....	2	1	....
Eighth	4	2	1	....	4	1	....	....
Ninth	3	2	....	....	2	1	....	....
Tenth	....	1	1	....	....	....	....	....
Eleventh	....	....	1	1	....	2	2	2
Twelfth	2	1	....	1	2	....	....	....
Thirteenth	2	....	1	....	1	1	....	....
Fourteenth	3	2	1	2	2	....	....	2
Fifteenth	2	....	1	1	....	....	2	....
Sixteenth	....	2	....	....	2	1	1	....
Seventeenth	2	1	5	4	1	1	3	1
Eighteenth	....	2	....	1	1	....	....	2
Nineteenth	1	2	2	1	3	2	1	....
Twentieth	2	2	....	....	1	....	....	....
Twenty-first	1	1	1	2	1	4	....	....
Twenty-second	....	....	....	1	1	....	....	1
Twenty-third	....	....	1	1	....	1	1	....
Twenty-fourth	1	1	....	....	2	2	....	....
Bay View	1	1	....	....	....	....	....	....
Sydenham	....	....	....	....	....	....	....	....
Total	37	29	18	18	30	25	13	9

PNEUMONIA (LOBAR).

Sex, Color and Calendar Months, Year 1914.

March.				April.				May.				June.			
White.		Colored.		White.		Colored.		White.		Colored.		White.		Colored.	
M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
3	1	....	....	1	1	....	....	4	....	....	....	....	....	....	....
1	3	....	....	1	....	....	1	....	2	....	....	....	1	....	....
1	2	....	....	1	2	2	....	....	....	....	....	4	....	....	....
3	1	1	....	2	....	2	1	....	1	1	....	....	....	....	....
....	1	1	1	1	....	....	1	3	....	....	....	....	....	1	....
1	1	....	....	1	3	1	....	1	1	....	....	1	....	....	....
1	....	....	....	1	1	....	....	....	1	....	1	....	1	....	....
2	3	2	....	1	....	....	....	1	....	....	....	1	1	....	....
3	1	1	....	3	1	....	....	1	....	....	....	....	....	....	....
1	2	1	....	3	....	1	....	2	....	....	....	1	....	....	....
3	3	....	....	....	....	....	1	1	....	1	....	1	....	....	....
3	1	1	....	1	....	....	2	....	....	1	....	....	....	....	....
3	1	....	....	1	1	....	....	3	....	....	....	....	1	....	1
1	2	1	1	2	....	1	....	1	1	....	1	....	....	....	....
1	2	....	1	....	1	1	....	....	1	....	....	1	....	....	....
5	2	....	....	1	....	1	2	2	....	....	....	....	....	....	1
....	....	3	4	1	....	2	1	....	....	1	2	....	1	....	1
1	....	....	2	1	1	1	....	....	....	2	1	....	1	....	....
2	2	2	1	....	1	1	1	....	....	....	....	....	1	....	1
1	....	....	....	1	2	....	....	1	1	....	....	....	1	....	....
3	....	2	2	....	2	1	....	1	2	1	....	3	....	....	....
1	1	2	....	....	....	2	2	....	....	1	....	....	....	*1	....
1	1	1	1	....	2	....	....	....	....	2	....	....	1	1	1
2	2	....	....	....	2	....	....	1	2	....	....	....	....	....	....
....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
43	32	18	13	23	20	16	12	22	12	10	5	12	9	3	5

*Chinese.

Continued on next page.

PNEUMONIA (LOBAR).

TABLE No. 2 (Continued)—*Deaths According to*

WARDS.	July.				August.				September.			
	White.		Colored.		White.		Colored.		White.		Colored.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
First	....	....	....	....	....	1	....	....	....	1	....	....
Second	....	....	....	....	....	1	....	....	....	....	....	....
Third	....	....	....	....	1	....	....	....	....	....	1	....
Fourth	....	....	1	1	....	....	....	....	....	....	1	....
Fifth	....	....	....	....	....	....	....	....	....	....	....	....
Sixth	1	....	....	....	....	1	....	....	1	....	....	....
Seventh	....	1	....	1	....	....	....	....	....	....	1	....
Eighth	....	....	....	1	....	1	....	....	....	1	....	....
Ninth	....	....	....	....	....	....	....	....	1	1	....	....
Tenth	....	....	....	....	....	....	....	....	....	1	1	....
Eleventh	....	....	....	....	1	....	....	....	1	....	....	....
Twelfth	2	....	....	....	....	....	....	....	....	....	1	....
Thirteenth	1	....	....	....	....	....	....	....	1	....	....	....
Fourteenth	....	....	....	1	....	....	....	....	1	....	....	....
Fifteenth	....	....	....	....	....	....	....	....	....	....	....	....
Sixteenth	....	....	....	....	....	....	....	....	1	....	1	....
Seventeenth	....	....	....	....	....	1	1	....	....	....	....	....
Eighteenth	1	....	....	....	....	....	....	....	1	....	....	....
Nineteenth	....	....	....	1	....	....	....	....	....	....	....	1
Twentieth	1	....	....	....	....	1	....	....	1	....	....	....
Twenty-first	....	1	....	....	....	....	1	....	....	1	....	....
Twenty-second	....	....	1	1	....	....	....	....	....	1	....	....
Twenty-third	....	....	....	....	....	1	....	....	....	....	....	....
Twenty-fourth	....	....	....	....	2	....	....	....	1	....	....	....
Bay View	....	....	....	....	....	....	....	....	....	....	....	....
Sydenham	....	....	....	....	....	....	....	....	....	....	....	....
Total	6	2	2	6	4	7	2	....	9	6	6	1

PNEUMONIA (LOBAR).

Wards, Sex, Color and Calendar Months, Year 1914.

October.				November.				December.				Total.			
White.		Colored.		White.		Colored.		White.		Colored.		White.		Colored.	
M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
....	....	....	....	3	1	....	....	1	....	....	....	15	10	....	....
....	....	....	....	3	....	....	....	2	3	....	....	10	13	....	1
1	....	1	....	....	....	....	....	2	....	....	....	14	8	6	....
....	....	....	....	....	....	....	....	....	....	2	1	8	3	8	5
....	1	1	....	1	1	....	....	2	....	....	3	7	4	5	5
....	....	....	....	....	1	....	....	....	1	....	1	13	9	1	2
....	....	....	....	1	2	1	....	....	....	....	....	3	9	4	3
....	1	....	....	....	1	....	....	1	2	....	....	14	13	3	1
1	....	....	....	1	....	....	1	3	....	....	....	18	6	1	1
1	....	....	....	2	2	....	1	....	2	....	1	10	8	4	2
2	1	....	....	....	....	1	....	....	2	....	....	9	8	5	4
....	....	....	....	1	....	1	....	1	....	....	1	12	2	4	4
....	....	....	....	....	....	....	....	....	1	....	....	12	5	1	1
....	....	....	1	....	....	....	1	1	....	....	....	11	5	3	9
....	....	1	....	....	1	1	....	....	3	....	....	4	8	6	2
1	....	....	....	....	....	....	....	1	....	....	1	13	5	3	4
....	....	....	1	....	....	1	1	....	....	1	1	4	4	17	16
....	....	....	1	1	....	....	2	1	....	....	1	7	4	3	10
....	....	1	....	1	....	....	....	2	2	1	....	9	10	8	6
....	1	....	....	....	1	....	....	2	1	....	....	10	10	....	....
1	....	....	....	1	1	1	....	....	2	....	1	11	14	7	5
....	....	....	1	1	....	1	....	....	....	2	1	3	2	10	7
1	1	....	....	1	....	....	....	2	....	2	....	5	7	8	3
....	1	....	....	....	....	....	....	2	1	....	....	11	11	....	....
....	....	....	....	....	....	....	....	....	....	....	....	1	1	....	....
....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
8	6	4	4	17	11	7	6	23	20	8	12	234	179	107	91

PNEUMONIA (LOBAR).

TABLE No. 3—*Deaths According to Age, Sex, Color and*

AGES.	January.				February.			
	White.		Colored.		White.		Colored.	
	M.	F.	M.	F.	M.	F.	M.	F.
Under 1 month	....	....	....	....	1	1	....	....
Bet. 1 and 3 mos.	1	....	1	....	....	....	....	....
Bet. 3 and 12 mos.	1	....	4	2	2	3	....	1
Bet. 1 and 2 yrs.	4	1	....	....	1	3	1	1
Bet. 2 and 3 yrs.	....	1	....	....	1	1	....	....
Bet. 3 and 4 yrs.	1	1	....	....	1	....	....	....
Bet. 4 and 5 yrs.	....	....	....	1	1	....	....	....
Bet. 5 and 9 yrs.	....	....	....	....	1	....	....	1
Bet. 10 and 14 yrs.	....	....	....	....	....	....	....	....
Bet. 15 and 19 yrs.	....	2	1	2	1	....	1	....
Bet. 20 and 24 yrs.	....	1	....	2	1	....	1	1
Bet. 25 and 29 yrs.	1	1	....	....	....	....	1	....
Bet. 30 and 34 yrs.	3	....	....	....	2	2	....	1
Bet. 35 and 39 yrs.	1	2	1	1	1	....	1	....
Bet. 40 and 44 yrs.	3	....	2	2	2	1	2	....
Bet. 45 and 49 yrs.	1	....	2	1	2	2	3	1
Bet. 50 and 54 yrs.	2	1	4	1	2	1	....	1
Bet. 55 and 59 yrs.	4	2	....	2	1	....	2	1
Bet. 60 and 64 yrs.	6	4	....	....	2	3	....	....
Bet. 65 and 69 yrs.	1	....	2	2	1	2	1	1
Bet. 70 and 74 yrs.	4	4	1	1	3	2	....	....
Bet. 75 and 79 yrs.	1	6	....	1	3	2	....	....
Bet. 80 and 84 yrs.	3	2	....	....	1	1	....	....
Bet. 85 and 89 yrs.	....	1	....	....	....	1	....	....
Bet. 90 and 94 yrs.	....	....	....	....	....	....	....	....
Bet. 95 and 99 yrs.	....	....	....	....	....	....	....	....
Total	37	29	18	18	30	25	13	9

PNEUMONIA (LOBAR).

Calendar Months, Also Average Age at Death, Year 1914.

March.				April.				May.				June.			
White.		Colored.		White.		Colored.		White.		Colored.		White.		Colored.	
M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
1	....	....	....	....	1	....	....	....	1	....	....	....	....	....	....
1	....	....	....	....	....	....	1	....	....	....	....	2	....	....	....
....	2	1	2	1	....	1	1	1	....	....	1	2	....	....	1
3	2	3	....	3	1	1	....	2	....	1	....	1	....	....	....
1	....	....	....	....	1	....	....	3	....	1	....	....	....	....	....
....	....	....	....	....	....	2	....	....	....	....	....	....	....	....	1
....	....	1	....	....	....	....	....	....	....	....	....	....	....	....	....
....	1	....	....	....	4	....	....	1	....	1	....	....	....	....	....
1	1	....	....	....	....	....	....	....	1	....	1	....	....	....	....
....	2	....	1	3	....	1	....	....	1	....	....	....	....	....	....
....	1	....	1	1	....	....	....	....	1	....	....	....	1	1	....
2	1	1	3	1	1	1	1	1	....	1	1	1	....	....	1
2	1	1	1	....	1	2	....	....	1	3	1	....	1	....	....
....	1	....	....	2	3	3	1	1	....	1	....	1	1	1	1
2	....	2	....	1	....	1	1	2	1	....	....	1	....	....	....
2	2	2	....	1	3	1	2	2	....	....	....	1	....	....	....
5	1	2	....	....	....	1	2	1	1	....	....	1	....	1	....
6	2	4	3	2	1	....	1	1	1	1	1	1	....	....	....
3	4	1	....	3	....	1	1	2	....	1	....	....	....	....	....
4	4	....	2	2	2	1	....	3	2	....	....	1	3	....	1
6	2	....	....	1	....	....	1	....	1	....	....	....	1	....	....
2	1	....	....	2	....	....	....	....	....	....	....	....	2	....	....
....	1	....	....	....	1	....	....	2	....	....	....	....	....	....	....
2	2	....	....	....	1	....	....	....	1	....	....	....	....	....	....
....	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....
....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
43	32	18	13	23	20	16	12	22	12	10	5	12	9	3	5

Continued on next page.

PNEUMONIA (LOBAR).

TABLE No. 3 (Continued)—*Deaths According to Age, Sex, Color*

AGES.	July.				August.				September.			
	White.		Colored.		White.		Colored.		White.		Colored.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Under 1 month....	....	....	....	....	....	....	....	....	....	....	....	....
Bet. 1 and 3 mos..	....	....	....	....	....	....	....	....	....	....	....	....
Bet. 3 and 12 mos..	....	....	....	1	....	....	1	....	2	1	....	....
Bet. 1 and 2 yrs..	....	....	....	....	....	....	....	....	....	....	....	....
Bet. 2 and 3 yrs..	....	....	....	....	....	....	....	....	....	....	1	....
Bet. 3 and 4 yrs..	1	....	....	....	1	....	....	....	....	....	....	....
Bet. 4 and 5 yrs..	....	....	....	....	....	....	....	....	....	....	....	....
Bet. 5 and 9 yrs..	....	....	....	....	....	....	....	....	....	....	....	....
Bet. 10 and 14 yrs..	....	....	....	....	....	....	....	....	....	....	....	....
Bet. 15 and 19 yrs..	....	....	....	....	1	1	....	....	....	....	....	....
Bet. 20 and 24 yrs..	....	....	1	1	....	....	....	....	....	....	1	....
Bet. 25 and 29 yrs..	....	....	....	2	....	....	....	....	....	....	....	....
Bet. 30 and 34 yrs..	....	....	....	....	....	1	....	....	1	1	....	....
Bet. 35 and 39 yrs..	....	....	1	1	....	1	....	....	....	1	1	....
Bet. 40 and 44 yrs..	....	....	....	....	1	....	....	....	....	....	....	1
Bet. 45 and 49 yrs..	....	....	....	....	....	....	....	....	....	....	1	....
Bet. 50 and 54 yrs..	....	....	....	....	....	....	....	....	1	1	2	....
Bet. 55 and 59 yrs..	....	....	....	....	....	1	1	....	....	1	....	....
Bet. 60 and 64 yrs..	1	....	....	1	....	1	....	....	1	....	....	....
Bet. 65 and 69 yrs..	....	....	....	....	....	1	....	....	1	....	....	....
Bet. 70 and 74 yrs..	2	1	....	....	....	1	....	....	2	1	....	....
Bet. 75 and 79 yrs..	....	1	....	....	....	....	....	....	....	....	....	....
Bet. 80 and 84 yrs..	1	....	....	....	1	....	....	....	1	....	....	....
Bet. 85 and 89 yrs..	1	....	....	....	....	....	....	....	....	....	....	....
Bet. 90 and 94 yrs..	....	....	....	....	....	....	....	....	....	....	....	....
Bet. 95 and 99 yrs..	....	....	....	....	....	....	....	....	....	....	....	....
Total.....	6	2	2	6	4	7	2	....	9	6	6	1

PNEUMONIA (LOBAR).

and Calendar Months, Also Average Age at Death, Year 1914.

October.				November.				December.				Total.			
White.		Colored.		White.		Colored.		White.		Colored.		White.		Colored.	
M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
....	....	....	....	....	....	....	1	....	1	....	1	2	4	....	2
1	....	....	1	....	....	....	....	....	....	1	....	5	....	2	2
1	1	....	....	....	....	....	1	....	2	....	1	10	9	7	11
....	1	....	1	1	....	....	2	1	1	1	2	16	9	7	6
....	....	....	....	....	....	....	....	....	....	....	1	5	3	2	1
....	....	....	....	1	....	....	....	....	....	1	....	5	1	3	1
....	....	1	....	....	....	....	....	....	....	....	....	1	....	2	1
....	....	....	....	....	....	....	....	....	....	....	....	2	5	1	1
....	....	....	....	....	....	....	....	....	....	....	....	1	2	....	1
....	....	....	1	....	....	....	....	....	2	....	1	5	8	3	5
....	1	....	....	....	....	1	....	....	....	1	3	2	5	6	8
....	....	1	....	....	....	....	....	1	....	....	....	7	3	5	8
....	....	....	....	....	....	....	....	1	....	1	1	9	8	7	4
....	....	....	....	....	2	2	....	....	....	1	1	6	11	12	5
....	....	....	....	....	....	....	....	2	....	....	....	14	2	7	4
....	....	....	....	2	1	1	....	1	3	....	....	12	11	10	4
2	....	....	....	3	1	1	....	2	....	....	....	19	6	11	4
2	....	....	1	2	1	....	....	....	....	....	....	19	9	8	9
1	1	1	....	3	2	1	....	4	2	1	1	26	17	6	3
....	....	....	....	....	1	....	1	2	....	....	....	15	15	4	7
1	....	....	....	3	1	....	1	3	1	1	....	25	15	2	3
....	2	1	....	1	....	1	....	2	4	....	....	11	18	2	1
....	....	....	....	....	1	....	....	2	3	....	....	11	9	....	....
....	....	....	....	....	1	....	....	2	1	....	....	5	8	....	....
....	....	....	....	....	....	....	....	....	....	....	....	....	1	....	....
....	....	....	....	1	....	....	....	....	....	....	....	1	....	....	....
8	6	4	4	17	11	7	6	23	20	8	12	234	179	107	91

PNEUMONIA (LOBAR).

TABLE No. 3 (Continued)—*Average Age at Death Due to Pneumonia, and Total.*

	Average.	Total.
Of all deaths (white and colored)	42.760	611
Of all deaths, five years and under (white and colored)	1.351	117
Of all deaths between five and nineteen years, inclusive (white and colored)	14.711	37
Of all deaths over twenty years (white and colored)	55.633	457

PNEUMONIA (LOBAR).

TABLE NO. 4—*Deaths According to Occupation, Year* 1914. *Also According to Social Condition.*

Artists and designers	1	Ironworkers	1
Accountants	1	Jobbers	2
Agents (commission)	1	Janitors	1
Agents (insurance)	1	Jewelers (dealers)	1
Agents (real estate)	1	Laborers	70
Bakers	1	Launderers or laundresses	10
Barbers	1	Lawyers	1
Bartenders	1	Leatherworkers	1
Boarding-house keepers	1	Liquor dealers	1
Butchers	2	Machinists	3
Bankers	1	Manufacturers	1
Builders and contractors	3	Moulders	3
Bricklayers	2	Merchants	7
Bookkeepers, clerks	5	Managers	1
Bookbinders	1	Mechanics	1
Carpenters	7	Milliners	2
Charwomen	1	Mariners	1
Collectors	1	Musicians	1
Coachmen	1	Nurses	1
Canmakers	1	Painters	2
Cigarmakers	3	Packers	1
Coppersmiths	1	Physicians	1
Cooks	8	Plumbers	1
Compositor	1	Policemen and watchmen	8
Coopers	1	Produce dealers	1
Cutters	1	Porters	3
Cloth pressers	1	Printers and engravers	1
Drivers	4	Saloonkeepers	1
Dressmakers and seamstresses	1	Salesmen	3
Domestics	41	Scissors grinders	1
Electrical workers	3	Seamen	4
Engineers (marine)	1	Steam railway employees	5
Engineers (stationary engine)	2	Scowmen	1
Foremen	4	Street railway employees	2
Forewomen	1	Shirt factory hands	2
Factory hands	1	Shoemakers	5
Farmers	4	Straw hat makers	1
Firemen (stationary engine)	2	Sextons	1
Firemen (Fire Department)	1	Servants	3
Florists	1	Stevedores	10
Fruit dealers	1	Stewardesses	1
Government employees	1	School children	8
Housewives	79	Tailors or tailoresses	3
Hodcarriers	1	Teamsters	2
Hucksters	1	Teachers	2
Hostlers	1	Tobacco workers	1

PNEUMONIA (LOBAR).

TABLE No. 4 (Continued)—*Deaths According to Occupation, Year* 1914, *Also According to Social Condition.*

Upholsterers	1	Woodworkers	2
Varnishers	1	No occupation	222
Waiters	2		

Social Condition.

Unknown	3	Widowers	58
Divorced	3	Widows	86
Married	221		
Single	240	Total	611

BRONCHO-PNEUMONIA.

TABLE No. 1—*Total Death Rate and Death Rates for White and Colored Population, Based on Census of* 1910, *from* 1903 *to* 1914, *Inclusive.*

YEAR.	Estimated Population.*	Total Deaths.	Death Rate per 1,000 of Population.	White, No. of Deaths.	White, Death Rate per 1,000.	Colored, No. of Deaths.	Colored, Death Rate per 1,000.
1903	524,417	335	0.639	219	0.494	116	1.425
1904	529,533	289	0.546	173	0.387	116	1.415
1905	534,449	350	0.655	237	0.524	113	1.370
1906	539,465	414	0.769	271	0.594	143	1.722
1907	544,481	371	0.681	237	0.514	134	1.603
1908	549,497	313	0.570	187	0.402	126	1.498
1909	554,513	370	0.667	220	0.468	150	1.772
1910	559,529	346	0.618	245	0.516	101	1.185
1911	564,547	407	0.721	270	0.564	137	1.598
1912	569,561	453	0.795	309	0.639	144	1.668
1913	574,577	562	0.978	374	0.766	188	2.165
1914	579,593	560	0.966	393	0.798	167	1.911

*Corrected to July 1 of each year, according to census of 1910.

BRONCHO-PNEUMONIA.

TABLE No. 2—*Deaths Arranged by Sex, Color,*

WARDS.	January.				February.			
	White.		Colored.		White.		Colored.	
	M.	F.	M.	F.	M.	F.	M.	F.
First	....	2	....	....	2	1	....	....
Second	....	1	....	....	1	1	....	....
Third	3	1	....	....	2	1	....	....
Fourth	....	1	....	1	1	1	2	....
Fifth	2	....	....	....	....	....	....	....
Sixth	....	....	....	....	2	3	....	1
Seventh	1	....	1	....	2	1	....	....
Eighth	....	1	....	....	1	3	....	1
Ninth	1	1	....	....	....	1	2	....
Tenth	2	1	....	....	2	2	....	....
Eleventh	....	1	1	1	....	....	1	1
Twelfth	2	2	....	....	1	1	....	....
Thirteenth	1	1	....	....	1	....	....	....
Fourteenth	2	3	3	1	2	1	1	1
Fifteenth	....	1	2	1	1	....	....	1
Sixteenth	....	2	....	2	....	1	1	1
Seventeenth	....	....	....	2	....	....	5	1
Eighteenth	....	....	....	1	1	4	....	....
Nineteenth	....	....	....	....	....	2	....	1
Twentieth	1	1	....	....	....	....	....	....
Twenty-first	2	....	....	....	1	1	....	1
Twenty-second	1	....	....	....	1	....	3	....
Twenty-third	2	....	....	....	4	1	....	....
Twenty-fourth	....	1	....	1	....	4	....	....
Bay View	....	1	....	....	....	....	....	....
Sydenham	....	....	....	....	....	....	....	....
Total	20	21	7	10	25	29	15	9

BRONCHO-PNEUMONIA.

Wards and Calendar Months, Year 1914.

March.				April.				May.				June.			
White.		Colored.		White.		Colored.		White.		Colored.		White.		Colored.	
M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
1	1	....	....	....	3	....	....	2	1	....	....	....	....	....	....
1	4	....	....	1	....	....	....	....	....	....	....	....	....	....	....
2	....	....	....	....	....	....	....	1	1	....	2	....	....	....	....
3	1	4	....	1	....	2	....	....	....	....	1	....	....	....	....
2	1	1	....	1	....	1	....	....	1	2	4	....	....	....	....
4	3	1	1	2	2	....	....	....	1	....	1	1	....	....	....
1	1	....	1	....	1	....	....	2	2	....	1	....	....	....	....
4	2	....	....	....	1	....	....	3	1	....	....	....	....	....	....
....	....	....	....	....	....	....	....	1	1	....	....	....	1	....	....
....	1	....	....	1	2	1	....	....	1	....	....	....	....	....	....
2	1	1	....	....	....	....	1	....	....	1	1	....	....	....	1
2	....	2	....	1	2	....	....	....	....	....	1	....	1	1	1
....	2	....	....	....	2	....	....	....	....	....	....	1	....	....	....
5	6	1	....	6	5	....	....	4	2	....	....	1	2	....	1
....	2	3	1	1	2	3	2	1	....	....	....	....	....	....	....
....	2	2	....	....	....	1	....	1	....	....	....	....	1	1	....
....	....	1	....	1	....	1	1	1	....	....	2	....	....	....	....
2	1	....	....	....	....	1	2	1	1	....	....	....	....	1	....
1	2	....	3	2	....	....	....	....	....	....	....	2	....	....	1
1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
....	3	....	....	1	....	....	1	3	1	....	....	....	1	....	....
....	....	....	....	....	2	....	1	1	....	....	1	....	....	....	....
1	....	1	....	1	....	....	1	1	2	....	1	1	....	....	....
1	1	....	....	....	1	....	....	2	2	....	....	....	2	....	....
2	....	....	....	....	....	....	....	1	2	1	....	....	....	....	....
....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
35	34	17	6	19	23	10	9	25	19	4	15	6	8	3	4

Continued on next page.

BRONCHO-PNEUMONIA.

TABLE No. 2 (Continued)—*Deaths Arranged by Sex,*

WARDS.	July.				August.				September.			
	White.		Colored.		White.		Colored.		White.		Colored.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
First	1								1			
Second		1			1					1		
Third									1			
Fourth				2	1		1					
Fifth												
Sixth	1					1			1			
Seventh		1										
Eighth	1	1				1						
Ninth	1	1								1		
Tenth			1									
Eleventh		1	1			1						
Twelfth												
Thirteenth							1			1		
Fourteenth	1		1						1	1		
Fifteenth			1				1					
Sixteenth					1		1				1	
Seventeenth	1						1				1	
Eighteenth						1						
Nineteenth	1	1								1		
Twentieth									1			
Twenty-first				1		1					1	
Twenty-second	1											
Twenty-third	2	1	1									
Twenty-fourth	1	2			1	1				2		
Bay View						1	1				1	
Sydenham												
Total	11	9	5	3	4	7	6		5	7	4	

BRONCHO-PNEUMONIA.

Color, Wards and Calendar Months, Year 1914.

October.				November.				December.				Total.			
White.		Colored.		White.		Colored.		White.		Colored.		White.		Colored.	
M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
1	2	....	....	....	....	....	....	1	2	....	....	9	12	....	....
....	....	....	....	....	1	....	....	2	1	....	....	6	10	....	....
1	....	1	1	....	....	....	....	1	4	....	....	11	7	1	3
....	....	....	....	....	1	....	....	1	....	2	....	7	4	11	4
....	....	1	....	....	1	....	....	....	2	....	....	5	5	5	4
....	....	....	1	....	....	....	....	....	1	....	....	11	11	1	4
1	....	....	....	....	....	1	1	....	1	1	....	7	7	3	3
....	1	1	1	....	1	2	....	....	....	....	....	9	12	3	2
1	1	....	....	....	1	....	....	1	....	....	....	5	8	2	....
....	1	1	....	1	1	....	1	1	1	1	....	7	10	4	1
....	....	....	1	....	1	....	....	....	....	....	....	2	5	5	6
1	....	....	1	....	1	....	....	1	2	....	....	8	9	3	3
2	....	....	....	1	2	2	....	....	3	....	....	6	11	3	....
1	1	....	2	....	....	....	....	3	1	....	1	26	22	6	6
....	....	....	....	1	1	....	1	2	2	1	....	6	8	11	6
....	....	1	....	2	....	....	....	....	1	....	....	4	7	8	3
....	....	1	....	....	1	1	....	1	....	1	1	4	1	12	7
1	....	1	....	2	2	1	1	....	....	....	....	7	9	4	4
....	....	....	....	1	....	....	....	....	....	....	1	7	6	....	6
....	....	....	....	....	....	....	1	....	1	....	....	3	2	....	1
....	1	....	....	....	....	....	1	....	....	2	....	7	8	3	4
....	....	....	....	....	....	....	....	....	....	....	....	4	2	3	2
....	....	....	....	2	....	1	....	1	1	....	....	15	5	3	2
....	1	....	....	2	2	....	....	1	....	....	....	8	19	....	1
....	....	....	1	....	1	....	....	1	....	....	....	4	5	3	1
....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
9	8	7	8	12	17	8	6	17	23	8	3	188	205	94	73

BRONCHO-PNEUMONIA.

TABLE No. 3—*Deaths According to Age, Sex,*

AGES.	January.				February.			
	White.		Colored.		White.		Colored.	
	M.	F.	M.	F.	M.	F.	M.	F.
Under 1 month	2	....	....	....	2	5	2	1
Bet. 1 and 3 mos	1	3	1	1	3	1	2	....
Bet. 3 and 12 mos	4	1	3	3	9	10	7	1
Bet. 1 and 2 yrs	6	2	1	3	5	2	....	1
Bet. 2 and 3 yrs	....	....	....	1	1	1	....	1
Bet. 3 and 4 yrs	....	1	....	....	....	1	....	....
Bet. 4 and 5 yrs	....	....	....	....	....	....	....	1
Bet. 5 and 9 yrs	1	1	....	....	....	1	1	1
Bet. 10 and 14 yrs	....	....	....	....	....	....	....	....
Bet. 15 and 19 yrs	....	....	....	....	....	1	....	....
Bet. 20 and 24 yrs	....	....	....	....	....	....	....	....
Bet. 25 and 29 yrs	1	....	....	....	1	....	....	....
Bet. 30 and 34 yrs	....	....	....	....	....	....	....	....
Bet. 35 and 39 yrs	1	....	....	....	....	....	....	....
Bet. 40 and 44 yrs	....	1	....	....	....	....	....	1
Bet. 45 and 49 yrs	1	....	....	....	....	....	....	....
Bet. 50 and 54 yrs	....	....	1	....	1	....	....	....
Bet. 55 and 59 yrs	....	....	1	1	....	3	....	....
Bet. 60 and 64 yrs	1	1	....	....	1	1	3	....
Bet. 65 and 69 yrs	1	3	....	....	....	1	....	1
Bet. 70 and 74 yrs	1	5	....	....	1	....	....	....
Bet. 75 and 79 yrs	....	1	....	1	1	1	....	....
Bet. 80 and 84 yrs	....	....	....	....	....	....	....	....
Bet. 85 and 89 yrs	....	2	....	....	....	1	....	....
Bet. 90 and 94 yrs	....	....	....	....	....	....	....	1
Bet. 95 and 99 yrs	....	....	....	....	....	....	....	....
Total	20	21	7	10	25	29	15	9

BRONCHO-PNEUMONIA.

Color and Calendar Months, Year 1914.

March.				April.				May.				June.			
White.		Colored.		White.		Colored.		White.		Colored.		White.		Colored.	
M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
2	1	2	....	2	1	1	....	....	2	....	....	....	1	....	....
2	4	2	....	1	3	....	....	4	2	....	1	....	1	....	....
9	9	3	2	5	7	2	4	7	6	....	2	3	1	....	1
5	4	6	....	5	2	3	3	4	3	3	5	1	....	....	1
3	1	1	1	....	1	1	....	1	1	....	2	....	1	....	....
....	....	1	....	....	....	....	....	....	....	....	....	....	....	1	....
....	....	....	....	....	....	1	....	....	....	....	....	....	....	2	....
1	2	....	1	....	....	....	....	....	....	....	1	....	....	....	....
....	....	....	....	....	....	1	....	1	....	....	....	....	....	....	....
....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
....	....	....	....	....	....	1	....	....	....	....	....	....	....	....	1
1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
....	....	1	1	....	....	....	....	1	....	....	1	....	....	....	....
....	....	....	....	....	....	....	....	1	....	....	1	....	....	....	....
1	....	....	....	....	1	....	....	....	....	....	....	....	....	....	1
2	1	....	....	....	1	....	....	....	....	....	....	....	....	....	....
....	....	....	....	1	1	....	....	1	....	....	1	....	....	....	....
1	1	1	....	1	2	....	1	1	1	1	....	....	....	....	....
1	2	....	....	....	....	....	....	....	....	....	....	1	1	....	....
5	7	....	1	1	1	....	....	2	2	....	....	....	2	....	....
1	2	....	....	3	2	....	....	1	....	....	....	1	....	....	....
....	....	....	....	....	1	....	1	1	2	....	1	....	....	....	....
....	....	....	....	....	....	....	....	....	....	....	....	....	1	....	....
....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
35	34	17	6	19	23	10	9	25	19	4	15	6	8	3	4

Continued on next page.

BRONCHO-PNEUMONIA.

TABLE No. 3 (Continued)—*Deaths According to Age,*

AGES.	July.				August.				September.			
	White.		Colored.		White.		Colored.		White.		Colored.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Under 1 month...	1	....	....	....	....	....	1	....	....	....	....	....
Bet. 1 and 3 mos..	....	....	....	....	....	....	....	....	....	....	....	....
Bet. 3 and 12 mos..	3	2	1	....	1	....	....	....	1	3	1	....
Bet. 1 and 2 yrs..	1	2	1	2	1	2	3	....	2	1	2	....
Bet. 2 and 3 yrs..	1	1	1	....	....	....	....	....	....	....	....	....
Bet. 3 and 4 yrs..	....	1	....	....	....	....	1	....	....	....	....	....
Bet. 4 and 5 yrs..	2	....	1	....	....	....	....	....	....	....	....	....
Bet. 5 and 9 yrs..	....	....	....	....	1	....	....	....	....	....	....	....
Bet. 10 and 14 yrs..	....	....	....	....	....	....	....	....	....	....	....	....
Bet. 15 and 19 yrs..	....	1	....	....	....	....	....	....	....	....	....	....
Bet. 20 and 24 yrs..	....	....	....	....	....	....	....	....	....	....	....	....
Bet. 25 and 29 yrs..	....	....	....	....	....	....	....	....	....	....	....	....
Bet. 30 and 34 yrs..	....	....	....	1	....	....	....	....	....	....	....	....
Bet. 35 and 39 yrs..	....	....	....	....	1	....	....	....	....	....	....	....
Bet. 40 and 44 yrs..	....	....	1	....	....	....	....	....	....	....	....	....
Bet. 45 and 49 yrs..	....	....	....	....	....	....	....	....	....	1	....	....
Bet. 50 and 54 yrs..	....	....	....	....	....	....	....	....	....	....	....	....
Bet. 55 and 59 yrs..	....	....	....	....	....	2	....	....	....	....	1	....
Bet. 60 and 64 yrs..	....	....	....	....	....	....	....	....	....	....	....	....
Bet. 65 and 69 yrs..	....	....	....	....	....	....	....	....	1	1	....	....
Bet. 70 and 74 yrs..	1	....	....	....	....	1	1	....	....	1	....	....
Bet. 75 and 79 yrs..	....	1	....	....	....	....	....	....	1	....	....	....
Bet. 80 and 84 yrs..	....	1	....	....	....	....	....	....	....	....	....	....
Bet. 85 and 89 yrs..	1	....	....	....	....	1	....	....	....	....	....	....
Bet. 90 and 94 yrs..	1	....	....	....	....	1	....	....	....	....	....	....
Bet. 95 and 99 yrs..	....	....	....	....	....	....	....	....	....	....	....	....
Total.....	11	9	5	3	4	7	6	....	5	7	4	....

BRONCHO-PNEUMONIA.

Sex, Color and Calendar Months, Year 1914.

October.				November.				December.				Total.			
White.		Colored.		White.		Colored.		White.		Colored.		White.		Colored.	
M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
....	....	....	....	1	1	1	2	2	1	1	....	12	12	8	3
....	1	3	2	2	2	....	1	4	....	....	2	17	17	8	7
3	4	1	2	....	3	3	....	1	4	2	....	46	50	23	15
1	....	....	1	3	1	....	....	2	3	1	....	36	22	20	16
1	....	....	....	1	....	....	1	....	1	....	....	8	7	3	6
....	....	1	....	1	....	....	....	....	1	....	....	1	4	4	....
....	1	....	1	....	....	1	....	....	....	....	....	2	1	5	2
....	1	....	....	1	....	....	....	....	1	....	....	4	6	1	3
....	....	....	....	....	....	....	....	....	....	....	....	1	....	1	....
....	....	1	....	....	....	....	....	....	....	....	....	....	2	1	....
....	....	....	....	....	....	....	....	....	....	1	....	....	....	2	1
....	....	....	....	....	....	....	....	....	....	....	1	3	....	....	1
....	....	....	....	....	....	....	....	....	....	....	....	1	....	....	1
....	....	....	....	....	....	....	1	....	....	....	....	3	....	1	3
....	....	....	....	....	1	1	....	....	....	....	....	1	2	2	2
....	....	....	1	....	1	....	....	1	....	1	....	3	3	1	2
....	....	....	....	1	....	1	1	1	1	1	....	5	3	3	1
1	....	....	....	2	1	....	....	....	1	....	....	5	8	2	2
1	....	1	....	....	....	....	....	1	4	....	....	7	10	6	1
2	....	....	....	....	2	1	....	....	1	1	....	6	11	2	1
....	1	....	....	....	2	....	....	1	1	....	....	12	23	1	1
....	....	....	1	....	2	....	....	1	....	....	....	9	9	....	2
....	....	....	....	....	....	....	....	....	....	....	....	1	4	....	2
....	....	....	....	....	1	....	....	2	3	....	....	3	9	....	....
....	....	....	....	....	....	....	....	1	1	....	....	2	2	....	1
....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
9	8	7	8	12	17	8	6	17	23	8	3	188	205	94	73

BRONCHO-PNEUMONIA.

TABLE NO. 4—*Deaths According to Occupations and Social Condition, Year* 1914.

Butchers	1	Machinists	1
Bricklayers	1	Manufacturers	1
Bookkeepers, clerks	4	Merchants	2
Broommakers	1	Painters	2
Carpenters	1	Plasterers	1
Cementworkers	1	Paperhangers	1
Cigarmakers	1	Plumbers	2
Cooks	2	Policemen and watchmen	1
Drivers	2	Religieuse	1
Dressmakers and seamstresses	1	Restaurant keepers	2
Domestics	14	Ropemakers	1
Fruit dealers	1	Steam railway employees	1
Grocers	2	Shoemakers	1
Glassblowers	2	Storekeepers	1
Hairdressers	1	Stevedores	1
Housewives	38	School children	8
Hucksters	1	Tailors or tailoresses	1
Hostlers	2	Tanners	1
Janitors	2	Waiters	1
Jewelers (dealers)	1	Woodworkers	1
Laborers	20	No occupation	426
Launderers or laundresses	4		

Social Condition.

Unknown	2	Widows	54
Divorced	1	Widowers	28
Single	413		
Married	62	Total	560

BRONCHITIS (ACUTE AND CHRONIC).

TABLE No. 1—*Showing Deaths According to Color,*

WARDS.	January.				February.			
	White.		Colored.		White.		Colored.	
	M.	F.	M.	F.	M.	F.	M.	F.
First	....	....	....	....	3	....	....	....
Second	....	....	....	....	....	....	....	....
Third	....	1	....	....	1	....	....	....
Fourth	1	....	1	....	1	....	....	....
Fifth	....	....	....	....	....	....	....	....
Sixth	....	....	....	....	1	....	....	....
Seventh	....	....	....	....	....	....	....	1
Eighth	1	1	....	....	....	1	....	....
Ninth	....	....	....	1	1	....	1	....
Tenth	....	....	....	1	1	....	....	....
Eleventh	1	1	....	....	1	1	....	....
Twelfth	....	1	....	....	....	1	....	....
Thirteenth	....	1	1	....	1	....	....	....
Fourteenth	....	....	....	....	....	....	....	....
Fifteenth	....	1	1	1	1	....	....	....
Sixteenth	....	....	....	....	....	....	....	....
Seventeenth	....	....	....	1	1	....	....	....
Eighteenth	....	....	....	....	....	....	....	....
Nineteenth	....	....	....	....	....	....	....	....
Twentieth	....	....	....	....	....	1	....	....
Twenty-first	....	1	1	....	....	....	....	1
Twenty-second	....	....	....	....	....	....	....	....
Twenty-third	1	....	....	....	....	....	....	....
Twenty-fourth	....	....	....	....	....	1	....	....
Bay View	....	....	....	....	....	....	....	....
Sydenham	....	....	....	....	....	....	....	....
Total	4	7	4	4	12	5	1	2

BRONCHITIS (ACUTE AND CHRONIC).

Sex, Wards and Calendar Months, Year 1914.

March.				April.				May.				June.			
White.		Colored.		White.		Colored.		White.		Colored.		White.		Colored.	
M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
2	....	....	....	....	1	....	....	....	....	....	....	....	....	....	....
....	....	....	....	1	....	....	....	1	....	....	....	....	....	....	....
....	....	....	....	....	....	....	....	2	1	....	....	....	....	....	....
1	....	....	....	....	....	....	....	....	....	....	....	....	....	1	....
....	....	....	....	....	....	1	....	1	....	....	....	....	....	....	....
....	1	....	....	2	1	....	....	....	....	....	....	....	....	....	....
....	....	....	....	2	1	....	....	....	....	1	....	....	....	....	....
2	....	....	....	....	1	....	....	....	....	....	....	....	1	....	....
....	1	....	....	....	....	....	....	....	1	....	....	....	....	....	....
....	1	....	....	1	1	....	....	....	....	....	....	....	....	....	....
....	....	1	....	....	....	....	....	....	....	....	....	....	....	....	....
....	....	....	....	....	....	....	1	....	....	2	1	....	....	....	....
....	....	....	....	....	....	....	....	1	....	....	....	....	....	....	....
....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1
1	....	2	....	....	1	....	....	....	....	....	....	....	....	....	....
....	1	....	....	....	....	....	....	....	....	1	....	1	....	....	....
....	....	....	....	....	....	....	....	....	....	....	....	....	....	1	....
....	1	....	....	....	1	....	....	....	....	....	....	....	....	....	....
....	....	....	....	....	....	1	....	....	....	....	....	....	....	....	....
....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
1	1	....	....	....	....	1	....	....	....	....	....	....	1	....	....
1	1	....	....	....	1	....	....	....	....	....	....	....	....	....	....
1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
9	7	3	....	6	8	3	1	5	2	4	1	1	2	2	1

Continued on next page.

BRONCHITIS (ACUTE AND CHRONIC).

TABLE No. 1 (Continued)—*Showing Deaths According to*

WARDS.	July.				August.				September.			
	White.		Colored.		White.		Colored.		White.		Colored.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
First												
Second	1											
Third						1						
Fourth												
Fifth												
Sixth		1				1				1		1
Seventh												
Eighth												
Ninth											1	
Tenth												
Eleventh												
Twelfth			1									
Thirteenth							1					
Fourteenth												
Fifteenth			1									
Sixteenth										1		
Seventeenth							1				1	
Eighteenth			1									
Nineteenth			2									
Twentieth											1	
Twenty-first	1											
Twenty-second								1				
Twenty-third		1										
Twenty-fourth					2							
Bay View												
Sydenham												
Total	2	2	5		2	2	2	1		2	3	1

BRONCHITIS (ACUTE AND CHRONIC).

Color, Sex, Wards and Calendar Months, Year 1914.

October.				November.				December.				Total.			
White.		Colored.		White.		Colored.		White.		Colored.		White.		Colored.	
M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
....	....	....	....	....	1	....	....	2	1	....	....	7	3	....	....
....	1	....	....	1	....	....	....	....	....	....	....	4	1	....	....
....	....	....	....	....	1	....	....	....	....	....	....	3	4	....	....
....	....	....	....	....	....	....	....	....	....	....	....	3	....	2	....
....	1	....	....	....	2	....	....	....	....	....	....	1	3	1	....
....	1	....	....	....	....	....	....	....	....	....	....	3	6	....	1
1	1	....	....	....	....	....	....	....	....	....	....	3	2	1	1
....	....	....	....	1	....	....	....	....	1	....	....	4	5	....	....
1	....	....	....	1	....	....	....	....	....	....	....	3	2	2	1
....	1	....	....	....	....	....	....	....	1	....	....	2	4	....	1
....	....	....	....	....	....	....	....	....	....	....	....	2	2	1	....
....	....	....	....	1	....	....	....	....	....	1	....	1	2	4	2
....	....	....	....	....	....	....	....	....	....	....	....	2	1	2	....
....	....	....	1	....	....	....	....	....	....	....	....	....	....	....	2
....	....	....	....	....	1	....	....	....	....	....	....	2	3	4	1
....	....	....	....	1	....	....	....	....	....	....	....	2	2	1	....
....	....	....	....	....	....	....	....	....	....	....	....	1	....	3	1
....	....	....	....	....	....	....	....	....	1	....	....	....	3	1	....
....	....	....	....	....	....	....	....	1	1	....	....	1	1	3	....
....	....	....	....	....	1	....	....	....	....	....	....	....	2	1	....
....	....	....	....	2	1	....	....	....	....	....	....	4	4	2	1
....	1	....	....	....	....	....	....	....	....	....	....	1	3	....	1
....	2	....	....	....	....	....	....	....	....	....	....	2	3	....	....
....	....	....	....	1	1	....	....	....	....	....	....	3	2	....	....
....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
2	8	....	1	8	8	....	....	3	5	1	....	54	58	28	12

BRONCHITIS (ACUTE AND CHRONIC).

TABLE No. 2—*Showing Deaths According to Age,*

AGES.	January.				February.			
	White.		Colored.		White.		Colored	
	M.	F.	M.	F.	M.	F.	M.	F.
Under 1 month	....	....	1	....	1	....	....	....
Bet. 1 and 3 mos.	....	....	....	1	1	....	....	....
Bet. 3 and 12 mos.	1	....	1	2	2	....	1	1
Bet. 1 and 2 yrs.	1	1	....	....	....	....	....	....
Bet. 2 and 3 yrs.	....	....	....	....	....	1	....	....
Bet. 3 and 4 yrs.	....	....	....	....	....	....	....	....
Bet. 4 and 5 yrs.	....	....	....	....	....	....	....	....
Bet. 5 and 9 yrs.	....	....	....	....	....	....	....	....
Bet. 10 and 14 yrs.	....	....	....	....	....	....	....	....
Bet. 15 and 19 yrs.	....	....	1	....	....	....	....	1
Bet. 20 and 24 yrs.	....	....	....	....	....	....	....	....
Bet. 25 and 29 yrs.	....	....	....	....	....	....	....	....
Bet. 30 and 34 yrs.	....	....	....	....	....	....	....	....
Bet. 35 and 39 yrs.	....	1	....	....	....	....	....	....
Bet. 40 and 44 yrs.	....	....	....	....	....	....	....	....
Bet. 45 and 49 yrs.	....	....	....	....	....	....	....	....
Bet. 50 and 54 yrs.	....	....	....	1	....	1	....	....
Bet. 55 and 59 yrs.	....	....	1	....	1	....	....	....
Bet. 60 and 64 yrs.	....	....	....	....	1	....	....	....
Bet. 65 and 69 yrs.	....	....	....	....	1	....	....	....
Bet. 70 and 74 yrs.	2	1	....	....	1	....	....	....
Bet. 75 and 79 yrs.	....	1	....	....	3	1	....	....
Bet. 80 and 84 yrs.	....	2	....	....	1	1	....	....
Bet. 85 and 89 yrs.	....	1	....	....	....	....	....	....
Bet. 90 and 94 yrs.	....	....	....	....	....	1	....	....
Bet. 95 and 99 yrs.	....	....	....	....	....	....	....	....
Total	4	7	4	4	12	5	1	2

BRONCHITIS (ACUTE AND CHRONIC).

Color, Sex and Calendar Months, Year 1914.

March.				April.				May.				June.			
White.		Colored.		White.		Colored.		White.		Colored.		White.		Colored	
M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
....	1	....	....	1	2	....	....	1	1	....	....	....	....	....	....
1	1	....	....	....	....	1	....	2	....	....	....	....	....	....	....
1	....	1	....	1	1	1	....	....	....	2	....	....	....	1	....
1	1	1	....	....	....	....	....	....	....	1	....	....	1	....	....
1	....	1	....	....	....	....	....	....	....	....	....	....	....	....	....
....	....	....	....	....	....	....	....	....	....	1	1	....	....	....	....
....	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....
....	....	....	....	....	....	....	....	1	....	....	....	....	....	....	....
....	....	....	....	....	1	....	....	....	....	....	....	....	....	....	....
....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
....	....	....	....	1	....	....	....	....	....	....	....	....	....	1	....
....	....	....	....	....	....	1	....	....	....	....	....	....	....	....	....
....	....	....	....	1	....	....	....	....	....	....	....	....	....	....	....
....	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....
....	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....
....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1
....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
....	....	....	....	....	....	....	1	....	....	....	....	1	....	....	....
....	1	....	....	....	1	....	....	....	....	....	....	....	....	....	....
....	....	....	....	....	2	....	....	1	1	....	....	....	....	....	....
1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
2	....	....	....	2	1	....	....	....	....	....	....	....	....	....	....
2	....	....	....	....	....	....	....	....	....	....	....	....	1	....	....
....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
9	7	3	....	6	8	3	1	5	2	4	1	1	2	2	1

Continued on next page.

BRONCHITIS (ACUTE AND CHRONIC).

TABLE No. 2 (Continued)—*Showing Deaths According*

AGES.	July.				August.				September.			
	White.		Colored.		White.		Colored.		White.		Colored	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Under 1 month			1									1
Bet. 1 and 3 mos.						1					1	
Bet. 3 and 12 mos.		1			1						1	
Bet. 1 and 2 yrs.			1					1				
Bet. 2 and 3 yrs.												
Bet. 3 and 4 yrs.												
Bet. 4 and 5 yrs.												
Bet. 5 and 9 yrs.												
Bet. 10 and 14 yrs.												
Bet. 15 and 19 yrs.												
Bet. 20 and 24 yrs.												
Bet. 25 and 29 yrs.			2									
Bet. 30 and 34 yrs.												
Bet. 35 and 39 yrs.			1				1					
Bet. 40 and 44 yrs.												
Bet. 45 and 49 yrs.											1	
Bet. 50 and 54 yrs.						1						
Bet. 55 and 59 yrs.	1									1		
Bet. 60 and 64 yrs.							1					
Bet. 65 and 69 yrs.												
Bet. 70 and 74 yrs.		1								1		
Bet. 75 and 79 yrs.					1							
Bet. 80 and 84 yrs.	1											
Bet. 85 and 89 yrs.												
Bet. 90 and 94 yrs.												
Bet. 95 and 99 yrs.												
Total	2	2	5		2	2	2	1		2	3	1

BRONCHITIS (ACUTE AND CHRONIC).

to Age, Color, Sex and Calendar Months, Year 1914.

October.				November.				December.				Total.			
White.		Colored.		White.		Colored.		White.		Colored.		White.		Colored.	
M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
....	....	....	....	....	3	....	....	....	....	....	....	3	7	2	1
....	....	....	....	2	....	....	....	1	1	....	....	7	3	2	1
....	2	....	....	....	2	....	....	....	1	1	....	6	7	9	3
....	....	....	....	....	....	....	....	....	....	....	....	2	3	3	1
....	....	....	....	....	1	....	....	....	....	....	....	1	2	1	....
....	1	....	....	....	....	....	....	....	....	....	....	....	1	1	1
....	1	....	....	....	....	....	....	....	....	....	....	....	2	....	....
....	....	....	....	....	....	....	....	....	....	....	....	1	....	....	....
....	....	....	....	....	....	....	....	....	....	....	....	....	1	....	....
....	....	....	....	....	....	....	....	....	....	....	....	....	....	1	1
....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
....	....	....	....	....	....	....	....	....	....	....	....	1	....	3	....
....	....	....	....	....	....	....	....	....	....	....	....	....	....	1	....
....	....	....	....	....	....	....	....	....	....	....	....	1	1	2	....
....	....	....	....	....	....	....	....	....	....	....	....	....	1	....	....
....	....	....	....	....	....	....	....	....	....	....	....	....	1	1	....
....	....	....	....	....	....	....	....	1	....	....	....	1	2	....	2
....	1	....	1	....	....	....	....	1	....	....	....	3	2	1	1
....	....	....	....	1	....	....	....	....	1	....	....	3	1	1	1
1	....	....	....	1	....	....	....	....	1	....	....	3	3	....	....
....	....	....	....	3	1	....	....	....	....	....	....	7	7	....	....
....	2	....	....	....	....	....	....	....	....	....	....	5	4	....	....
1	1	....	....	....	....	....	....	....	....	....	....	7	5	....	....
....	....	....	....	1	1	....	....	....	....	....	....	3	3	....	....
....	....	....	....	....	....	....	....	....	1	....	....	....	2	....	....
....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
2	8	....	1	8	8	....	....	3	5	1	....	54	58	28	12

ALIMENTARY CANAL.

TABLE No. 1—*Showing Deaths by*

MONTHS.	Under 1 Month.				Between 1 and 3 Months.				Between 3 and 12 Months.			
	White.		Colored.		White.		Colored.		White.		Colored.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
January	...	2	...	....	1	1	...	....	1	1	...	....
February	...	...	...	....	...	1	...	....	1	1	...	....
March	3	...	...	....	2	3	...	....	2	2	...	....
April	...	2	...	....	1	...	...	....	2	2	2	1
May	1	...	...	....	1	1	...	....	2	3	2	....
June	2	...	...	....	2	4	1	....	7	6	2	....
July	5	1	...	1	11	11	6	3	48	40	11	8
August	1	3	...	1	11	9	2	2	40	26	8	8
September	3	2	1	....	6	7	2	2	19	14	6	6
October	...	...	...	....	5	4	2	1	11	17	5	3
November	...	1	...	....	6	5	2	1	7	12	1	1
December	...	1	...	....	5	1	1	1	1	2	...	1
Total	15	12	1	2	51	47	16	10	141	126	37	28

ALIMENTARY CANAL.

Months, Age, Color and Sex, Year 1914.

Between 1 and 2 Years.				Between 2 and 3 Years.				Between 3 and 4 Years.				Between 4 and 5 Years.				Total.				Grand Total.
White.		Colored.		White.		Colored.		White.		Colored.		White.		Colored.		White.		Colored.		
M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	
1	1	...	....	1	1	...	....	...	...	...	....	...	...	...	....	4	6	...	....	10
2	1	...	....	...	...	...	....	...	...	...	....	...	...	...	....	3	3	...	....	6
1	...	...	....	...	...	...	....	...	...	...	....	...	...	...	....	8	5	...	....	13
1	2	1	....	...	...	...	1	...	...	...	....	...	...	...	....	4	6	3	2	15
1	1	...	....	...	...	...	....	...	...	...	....	...	...	...	....	5	5	2	....	12
...	2	...	1	1	...	...	....	...	...	...	....	...	1	...	....	12	13	3	1	29
9	9	...	....	2	1	...	....	1	...	...	....	...	...	...	....	76	62	17	12	167
10	8	2	....	1	1	...	....	...	...	...	....	...	...	...	....	63	47	12	11	133
4	8	1	1	2	...	1	....	...	1	...	....	...	...	...	1	34	32	11	10	87
3	2	...	1	...	...	...	....	...	1	...	....	...	...	...	....	19	24	7	5	55
7	1	1	1	...	1	...	....	...	...	...	....	...	1	...	....	20	21	4	3	48
...	...	1	1	...	...	...	....	...	...	...	....	...	...	...	....	6	4	2	3	15
39	35	6	5	7	4	1	1	1	2	...	....	...	2	...	1	254	228	61	47	590

ALIMENTARY CANAL.

TABLE No. 2—*Showing Deaths by*

WARDS.	Under 1 Month.				Between 1 and 3 Months.				Between 3 and 12 Months.			
	White.		Colored.		White.		Colored.		White.		Colored.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
First	...	2	...	....	6	4	...	1	17	19	...	....
Second	2	2	...	....	3	8	...	....	22	17	...	....
Third	1	...	...	....	...	2	...	....	6	9	1	....
Fourth	1	...	...	....	1	1	2	....	1	1	2	....
Fifth	...	...	...	....	...	...	1	....	...	1	2	3
Sixth	...	...	...	....	2	...	2	....	5	3	...	1
Seventh	1	1	1	....	1	1	...	....	6	2	4	1
Eighth	...	1	...	....	2	2	...	....	7	5	1	....
Ninth	1	...	...	....	...	1	1	1	3	2	...	1
Tenth	3	...	...	....	2	...	...	....	6	1	...	....
Eleventh	...	...	...	....	2	2	1	....	...	2	1	3
Twelfth	1	...	...	....	1	1	...	....	2	1	1	....
Thirteenth	...	...	...	....	4	2	...	....	3	2	...	....
Fourteenth	1	1	...	....	7	4	1	1	3	6	2	....
Fifteenth	...	...	...	....	2	1	2	1	3	2	3	3
Sixteenth	...	...	...	....	...	1	2	....	4	2	...	....
Seventeenth	...	...	...	1	2	1	1	4	1	...	6	10
Eighteenth	...	2	...	....	2	2	...	....	7	7	5	....
Nineteenth	...	...	...	....	3	...	1	....	7	8	2	....
Twentieth	1	2	...	....	1	4	...	....	4	8	...	....
Twenty-first	...	...	...	....	1	4	1	1	7	11	3	2
Twenty-second	1	...	...	....	1	...	1	....	9	1	1	1
Twenty-third	...	...	...	1	2	4	...	1	4	3	3	3
Twenty-fourth	2	1	...	....	6	2	...	....	14	13	...	....
Total	15	12	1	2	51	47	16	10	141	126	37	28

ALIMENTARY CANAL.

Wards, Age, Color and Sex, Year 1914.

Between 1 and 2 Years.				Between 2 and 3 Years.				Between 3 and 4 Years.				Between 4 and 5 Years.				Total.				Grand Total.
White.		Colored.		White.		Colored.		White.		Colored.		White.		Colored.		White.		Colored.		
M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	
5	6	...	...	1	1	...	...	...	...	...	...	...	...	...	...	29	32	...	1	62
5	2	...	1	1	1	...	...	1	...	...	...	...	...	...	...	34	30	...	1	65
2	4	...	...	...	...	...	...	...	...	...	...	...	1	...	...	9	16	1	...	26
2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	5	2	4	...	11
1	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	3	3	3	10
1	1	...	...	...	...	...	...	...	...	...	...	...	1	...	...	8	5	2	1	16
1	2	1	...	...	...	...	...	...	...	...	...	...	...	...	...	9	6	6	1	22
2	1	1	...	...	...	...	...	...	...	...	...	...	...	...	...	11	9	2	...	22
1	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	5	4	1	2	12
3	1	...	1	1	...	...	...	...	...	...	...	...	...	...	...	15	2	...	1	18
...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	2	4	2	4	12
...	...	...	...	2	...	...	...	...	...	...	...	...	...	...	1	6	2	1	1	10
5	...	...	...	1	1	...	...	...	...	...	...	...	...	...	...	13	5	...	...	18
2	1	1	...	...	...	...	...	...	...	...	...	...	...	...	...	13	12	4	1	30
...	1	...	...	...	...	1	...	...	...	...	...	...	...	...	...	5	4	6	4	19
...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	4	3	2	1	10
...	1	1	...	...	...	...	1	...	...	...	...	...	...	...	...	3	2	8	16	29
...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	9	13	5	...	27
...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	10	9	3	...	22
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	6	14	...	...	20
4	2	1	1	1	...	...	...	...	1	...	...	...	...	...	...	13	18	5	4	40
...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	11	1	3	1	16
3	2	...	...	...	1	...	...	...	1	...	...	...	...	...	...	9	11	3	5	28
2	5	...	...	...	...	...	...	...	...	...	...	...	...	...	...	24	21	...	...	45
39	35	6	5	7	4	1	1	1	2	...	...	...	2	...	1	254	228	61	47	590

INANITION.

TABLE NO. 1—*Showing Deaths by*

MONTHS.	Under 1 Month.				Between 1 and 3 Months.				Between 3 and 12 Months.			
	White.		Colored.		White.		Colored.		White.		Colored.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
January	2	...	2	1	...	...	...	1	...	...	...	....
February	3	...	...	....	1	...	1	....	...	1	...	....
March	...	1	...	1	1	...	...	....	1	...	...	....
April	1	1	1	2	1	...	1	....	...	...	...	....
May	1	3	...	....	...	...	...	....	...	...	1	....
June	1	...	...	....	...	...	...	....	1	...	...	....
July	...	1	...	....	1	...	...	....	1	2	...	....
August	4	2	...	....	...	1	...	....	...	...	...	....
September	...	1	1	....	...	...	...	....	...	...	...	1
October	2	1	...	....	1	...	...	1	...	...	...	....
November	...	...	...	....	...	...	...	....	1	...	...	....
December	...	...	...	....	...	...	...	....	...	...	...	....
Total	14	10	4	4	5	1	2	2	4	3	1	1

INANITION.

Months, Age, Color and Sex, Year 1914.

Between 1 and 2 Years.				Between 2 and 3 Years.				Between 3 and 4 Years.				Between 4 and 5 Years.				Total.				Grand Total.
White.		Colored.		White.		Colored.		White.		Colored.		White.		Colored.		White.		Colored.		
M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	
...	...	...	....	...	...	...	....	...	...	...	....	...	...	...	....	2	...	2	2	6
...	...	...	....	...	...	...	....	...	...	...	....	...	...	...	....	4	1	1	....	6
...	...	...	....	...	...	...	....	...	...	...	....	...	...	...	....	2	1	...	1	4
...	...	...	....	...	...	...	....	...	...	...	....	...	...	...	....	2	1	2	2	7
...	...	...	1	...	...	...	....	...	...	...	....	...	...	...	....	1	3	1	1	6
...	...	...	....	...	...	...	....	...	...	...	....	...	...	...	....	2	...	...	....	2
...	...	1	....	...	...	...	....	...	...	...	....	...	...	...	....	2	3	1	....	6
...	...	...	....	...	...	...	....	...	...	...	....	...	...	...	....	4	3	...	....	7
...	...	...	....	...	...	...	....	...	...	...	....	...	...	...	....	...	1	1	1	3
...	...	...	....	...	...	...	....	...	...	...	....	...	...	...	....	3	1	...	1	5
...	...	...	....	...	...	...	....	...	...	...	....	...	...	...	....	1	...	...	....	1
...	...	...	...	...	...	...	....	...	...	...	....	...	...	...	....	...	...	...	....	....
...	...	1	1	...	...	...	....	...	...	...	....	...	...	...	....	23	14	8	8	53

INANITION.

TABLE No. 2—*Showing Deaths by*

WARDS.	Under 1 Month.				Between 1 and 3 Months.				Between 3 and 12 Months.			
	White.		Colored.		White.		Colored.		White.		Colored.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
First	4	2	...	...	...	...	...	...	...	...	...	...
Second	1	...	...	...	...	...	...	...	1	...	...	...
Third	...	2	...	...	...	...	...	...	...	...	...	...
Fourth	...	...	1	1	...	...	1	...	...	...	...	...
Fifth	...	1	...	...	...	...	...	...	...	...	...	...
Sixth	3	...	...	1	...	...	...	...	...	...	...	...
Seventh	1	2	...	...	1	...	...	...	1	1	...	...
Eighth	...	...	...	...	...	...	...	...	1	1	...	...
Ninth	...	...	...	...	1	...	...	...	1	...	...	...
Tenth	...	...	...	...	1	...	...	...	...	...	...	...
Eleventh	...	...	...	...	...	...	...	...	...	...	...	...
Twelfth	1	...	...	...	...	...	...	...	...	...	...	...
Thirteenth	2	1	...	...	...	...	...	...	...	...	...	...
Fourteenth	...	...	...	...	...	...	...	...	...	...	1	...
Fifteenth	...	...	...	...	...	...	...	...	...	...	...	...
Sixteenth	...	1	...	...	1	...	...	...	...	...	...	1
Seventeenth	...	...	1	1	...	1	...	...	...	...	...	...
Eighteenth	1	1	1	...	...	...	...	1	...	1	...	...
Nineteenth	1	...	...	...	...	...	...	...	...	...	...	...
Twentieth	...	...	...	...	1	...	...	...	...	...	...	...
Twenty-first	...	...	...	1	...	...	...	...	...	...	...	...
Twenty-second	...	...	1	...	...	...	1	...	...	...	...	...
Twenty-third	...	...	...	...	...	...	...	1	...	...	...	...
Twenty-fourth	...	...	...	...	...	...	...	...	...	...	...	...
Total	14	10	4	4	5	1	2	2	4	3	1	1

INANITION.

Wards, Age, Color and Sex, Year 1914.

Between 1 and 2 Years.				Between 2 and 3 Years.				Between 3 and 4 Years.				Between 4 and 5 Years.				Total.				Grand Total.
White.		Colored.		White.		Colored.		White.		Colored.		White.		Colored.		White.		Colored.		
M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	
...	...	...	....	...	...	...	....	...	...	...	....	...	...	...	....	4	2	...	....	6
...	...	...	....	...	...	...	....	...	...	...	....	...	...	...	....	2	...	...	....	2
...	...	...	....	...	...	...	....	...	...	...	....	...	...	...	....	...	2	...	....	2
...	...	...	....	...	...	...	....	...	...	...	....	...	...	...	....	...	...	2	1	3
...	...	...	....	...	...	...	....	...	...	...	....	...	...	...	....	...	1	...	....	1
...	...	...	....	...	...	...	....	...	...	...	....	...	...	...	....	3	...	...	1	4
...	...	...	....	...	...	...	....	...	...	...	....	...	...	...	....	3	3	...	....	6
...	...	...	....	...	...	...	....	...	...	...	....	...	...	...	....	1	1	...	....	2
...	...	...	....	...	...	...	....	...	...	...	....	...	...	...	....	2	...	...	....	2
...	...	...	....	...	...	...	....	...	...	...	....	...	...	...	....	1	...	...	....	1
...	...	...	1	...	...	...	....	...	...	...	....	...	...	...	....	...	...	...	1	1
...	...	...	....	...	...	...	....	...	...	...	....	...	...	...	....	1	...	...	....	1
...	...	...	....	...	...	...	....	...	...	...	....	...	...	...	....	2	1	...	....	3
...	...	...	....	...	...	...	....	...	...	...	....	...	...	...	....	...	...	1	....	1
...	...	1	....	...	...	...	....	...	...	...	....	...	...	...	....	...	...	1	....	1
...	...	...	....	...	...	...	....	...	...	...	....	...	...	...	....	1	1	...	1	3
...	...	...	....	...	...	...	....	...	...	...	....	...	...	...	....	...	1	1	1	3
...	...	...	....	...	...	...	....	...	...	...	....	...	...	...	....	1	2	1	1	5
...	...	...	....	...	...	...	....	...	...	...	....	...	...	...	....	1	...	...	....	1
...	...	...	....	...	...	...	....	...	...	...	....	...	...	...	....	1	...	...	....	1
...	...	...	....	...	...	...	....	...	...	...	....	...	...	...	....	...	...	...	1	1
...	...	...	....	...	...	...	....	...	...	...	....	...	...	...	....	...	...	2	....	2
...	...	...	....	...	...	...	....	...	...	...	....	...	...	...	....	...	...	...	1	1
...	...	...	....	...	...	...	....	...	...	...	....	...	...	...	....	...	...	...	....	....
...	...	1	1	...	...	...	....	...	...	...	....	...	...	...	....	23	14	8	8	53

MARASMUS.

TABLE NO. 1—*Showing Deaths by*

MONTHS.	Under 1 Month.				Between 1 and 3 Months.				Between 3 and 12 Months.			
	White.		Colored.		White.		Colored.		White.		Colored.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
January	...	1	...	....	...	2	...	....	2	...	...	....
February	...	1	...	....	1	...	...	....	1	...	...	....
March	...	...	...	....	...	1	...	....	1	1	...	....
April	4	1	...	....	2	1	...	....	1	1	1	....
May	1	...	...	....	...	...	...	1	4	1	...	....
June	2	...	...	....	...	...	...	....	3	...	1	....
July	1	...	...	....	1	2	...	....	1	1	1	....
August	1	3	...	....	4	4	...	....	3	2	2	....
September	1	...	...	....	1	1	...	....	2	1	2	....
October	...	...	...	....	...	...	...	....	1	1	1	....
November	...	...	1	....	...	...	...	....	2	1	...	1
December	...	...	...	....	...	1	...	....	...	1	...	....
Total	10	6	1	....	9	12	...	1	21	10	8	1

MARASMUS.

Months, Age, Color and Sex, Year 1914.

Between 1 and 2 Years.				Between 2 and 3 Years.				Between 3 and 4 Years.				Between 4 and 5 Years.				Total.				Grand Total.
White.		Colored.		White.		Colored.		White.		Colored.		White.		Colored.		White.		Colored.		
M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	
...	1	...	1	...	...	...	....	...	...	...	....	...	...	...	....	2	4	...	1	7
...	...	...	....	...	...	...	....	...	...	...	....	...	...	...	....	2	1	...	....	3
...	...	...	....	...	...	...	....	...	...	...	....	...	...	...	....	1	2	...	....	3
...	...	...	....	...	...	...	....	...	...	...	....	...	...	...	....	7	3	1	....	11
...	...	...	....	...	...	...	1	...	...	...	....	...	...	...	....	5	1	..	2	8
...	1	...	1	...	...	...	....	...	...	...	....	...	...	...	....	5	1	1	1	8
...	...	...	....	...	...	...	....	...	...	...	....	...	...	...	....	3	3	1	....	7
...	...	...	....	...	...	...	....	...	...	...	....	...	...	...	....	8	9	2	....	19
...	...	...	....	...	...	...	....	...	...	...	....	...	...	...	....	4	2	2	....	8
...	...	...	....	...	...	...	....	...	...	...	....	...	...	...	....	1	1	1	....	3
1	...	...	....	...	...	...	....	...	...	...	....	...	...	...	....	3	1	1	1	6
...	...	...	....	...	...	...	....	...	...	...	....	...	...	...	....	...	2	...	....	2
1	2	...	2	...	...	...	1	...	...	...	....	...	...	...	....	41	30	9	5	85

MARASMUS.

TABLE NO. 2—*Showing Deaths by*

WARDS.	Under 1 Month.				Between 1 and 3 Months.				Between 3 and 12 Months.			
	White.		Colored.		White.		Colored.		White.		Colored.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
First	...	...	...	....	...	...	...	....	1	...	...	....
Second	...	...	...	....	...	1	...	....	2	1	...	....
Third	...	...	...	....	...	1	...	....	...	...	...	....
Fourth	1	...	...	....	...	...	...	....	...	...	2	....
Fifth	...	...	...	....	...	...	...	....	1	1	...	....
Sixth	1	...	...	....	...	...	...	1	1	...	...	....
Seventh	...	...	...	....	...	...	...	....	...	...	...	....
Eighth	...	...	...	....	...	...	...	....	3	...	...	....
Ninth	...	...	...	....	...	...	...	....	...	...	...	....
Tenth	...	...	...	....	1	...	...	....	1	...	...	....
Eleventh	...	...	...	....	...	...	...	....	...	...	...	....
Twelfth	1	1	...	....	...	1	...	....	...	...	3	....
Thirteenth	...	...	...	....	...	1	...	....	1	...	...	....
Fourteenth	...	...	...	....	...	...	...	....	...	1	...	....
Fifteenth	1	1	...	....	1	...	...	....	2	1	1	1
Sixteenth	1	...	...	....	...	...	...	....	1	...	...	....
Seventeenth	...	...	1	....	...	...	...	....	...	...	...	....
Eighteenth	3	4	...	....	4	6	...	....	1	2	...	....
Nineteenth	...	...	...	....	...	...	...	....	2	...	1	....
Twentieth	...	...	...	....	2	...	...	....	1	...	1	....
Twenty-first	...	...	...	....	...	...	...	....	1	1	...	....
Twenty-second	1	...	...	....	...	...	...	....	1	1	...	....
Twenty-third	1	...	...	....	...	1	...	....	1	...	...	....
Twenty-fourth	...	...	...	....	1	1	...	....	1	2	...	....
Total	10	6	1	....	9	12	...	1	21	10	8	1

MARASMUS.

Wards, Age, Color and Sex, Year **1914.**

Between 1 and 2 Years.				Between 2 and 3 Years.				Between 3 and 4 Years.				Between 4 and 5 Years.				Total.				Grand Total.
White.		Colored.		White.		Colored.		White.		Colored.		White.		Colored.		White.		Colored.		
M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	
...	...	...	....	...	...	...	....	...	...	...	....	...	...	...	....	1	...	...	....	1
...	...	...	....	...	...	...	....	...	...	...	....	...	...	...	....	2	2	...	....	4
...	...	...	1	...	...	...	....	...	...	...	....	...	...	...	....	...	1	...	1	2
...	...	...	1	...	...	...	....	...	...	...	....	...	...	...	....	1	...	2	1	4
...	...	...	....	...	...	...	....	...	...	...	....	...	...	...	....	1	1	...	....	2
...	...	...	....	...	...	...	....	...	...	...	....	...	...	...	....	2	...	...	1	3
...	...	...	....	...	...	...	....	...	...	...	....	...	...	...	....	...	...	...	....	...
...	...	...	....	...	...	...	....	...	...	...	....	...	...	...	....	3	...	...	....	3
...	...	...	....	...	...	...	....	...	...	...	....	...	...	...	....	...	...	...	....	...
...	...	...	....	...	...	...	....	...	...	...	....	...	...	...	....	2	...	...	....	2
...	...	...	....	...	...	...	....	...	...	...	....	...	...	...	....	...	...	...	....	...
...	...	...	....	...	...	...	....	...	...	...	....	...	...	...	....	1	2	3	....	6
...	...	...	....	...	...	...	....	...	...	...	....	...	...	...	....	1	1	...	....	2
...	...	...	....	...	...	...	....	...	...	...	....	...	...	...	....	...	1	...	....	1
...	...	...	....	...	...	...	1	...	...	...	....	...	...	...	....	4	2	1	2	9
...	1	...	....	...	...	...	....	...	...	...	....	...	...	...	....	2	1	...	....	3
...	...	...	....	...	...	...	....	...	...	...	....	...	...	...	....	...	...	1	....	1
...	...	...	....	...	...	...	....	...	...	...	....	...	...	...	....	8	12	...	....	20
...	...	...	....	...	...	...	....	...	...	...	....	...	...	...	....	2	...	1	....	3
1	...	...	....	...	...	...	....	...	...	...	....	...	...	...	....	4	...	1	....	5
...	...	...	....	...	...	...	....	...	...	...	....	...	...	...	....	1	1	...	....	2
...	1	...	....	...	...	...	....	...	...	...	....	...	...	...	....	2	2	...	....	4
...	...	...	....	...	...	...	....	...	...	...	....	...	...	...	....	2	1	...	....	3
...	...	...	....	...	...	...	....	...	...	...	....	...	...	...	....	2	3	...	....	5
1	2	...	2	...	...	...	1	...	...	...	....	...	...	...	....	41	30	9	5	85

CANCER.

TABLE NO. 1—*Total Deaths (Residents only) and Death Rates for White and Colored Population, Based on Census of* 1910, *from* 1903 *to* 1914, *Inclusive.*

YEAR.	Estimated Population.*	Total Deaths.	Death Rate per 1,000 of Population.	White. No. of Deaths.	White. Death Rate per 1,000.	Colored. No. of Deaths.	Colored. Death Rate per 1,000.
1903	524,407	311	0.593	285	0.621	26	0.319
1904	529,423	375	0.708	331	0.739	44	0.537
1905	534,439	376	0.704	323	0.715	57	0.690
1906	539,455	392	0.727	341	0.725	51	0.614
1907	544,471	400	0.735	347	0.753	53	0.646
1908	549,497	414	0.753	355	0.763	59	0.701
1909	554,513	403	0.727	351	0.747	52	0.614
1910	559,529	472	0.844	420	0.885	52	0.610
1911	564,547	465	0.824	410	0.856	55	0.641
1912	569,561	484	0.849	425	0.879	59	0.683
1913	574,577	602	1.047	514	1.053	88	1.013
1914	579,593	518	0.893	438	0.889	80	0.915

*Corrected to July 1 of each year, according to census of 1910.

CANCER.

TABLE NO. 2—*Average Age at Death in Year 1914—Average at Death both White and Colored.*

	White.			Colored.			Total.		Grand Total.
	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	
Number of deaths.....	163	275	438	20	60	80	183	335	518
Combined number of years.	9,291.23	17,004.72	26,295.95	1,058.74	3,051.90	4,110.64	10,349.97	20,056.62	30,406.59
Average age in years.....	57.001	61.835	60.036	52.937	50.865	51.383	56.556	59.870	58.699

CANCER.

TABLE NO. 3—*Deaths Due to Cancer of the Seven Organs Most Frequently Involved Primarily, Giving the Average Age at Death, Year* 1914.

ORGAN INVOLVED.	NUMBER OF DEATHS.					AVERAGE AGE AT DEATH.				Average age of white and colored combined.
	White.		Colored.		Total.	White.		Colored.		
	Male.	Female.	Male.	Female.		Male.	Female.	Male.	Female	
Liver	16	50	1	5	72	59.236	60.355	55.000	51.400	59.410
Stomach	48	44	10	6	108	57.302	62.251	53.733	56.346	58.934
Uterus	.....	55	.....	24	79	.....	53.605	.....	44.649	50.884
Breast	.....	48	.....	11	59	.....	57.760	.....	51.787	56.646
Esophagus	6	1	2	1	10	61.555	49.160	46.705	64.580	57.648
Rectum	9	10	.....	1	20	59.944	61.022	.....	52.000	60.086
Intestines	7	11	.....	4	22	51.008	58.696	.....	56.000	55.760

CANCER.

TABLE No. 4—*Deaths Due to Cancer, Arranged*

AGES.	January.				February.			
	White.		Colored.		White.		Colored.	
	M.	F.	M.	F.	M.	F.	M.	F.
Under 1 month	....	....	....	....	....	....	....	....
Bet. 1 and 3 mos	....	....	....	....	....	....	....	....
Bet. 3 and 12 mos	....	....	....	....	....	....	....	....
Bet. 1 and 2 yrs	....	....	....	....	....	....	....	....
Bet. 2 and 3 yrs	....	....	....	....	....	....	....	....
Bet. 3 and 4 yrs	....	....	....	....	....	....	....	....
Bet. 4 and 5 yrs	....	....	....	....	....	....	....	....
Bet. 5 and 9 yrs	....	....	....	....	....	....	....	....
Bet. 10 and 14 yrs	....	....	....	....	....	....	....	....
Bet. 15 and 19 yrs	....	....	....	....	....	....	....	....
Bet. 20 and 24 yrs	....	....	....	....	....	1	....	....
Bet. 25 and 29 yrs	....	....	....	....	1	1	....	....
Bet. 30 and 34 yrs	2	....	....	1	1	....	....	....
Bet. 35 and 39 yrs	....	....	....	....	....	1	....	....
Bet. 40 and 44 yrs	3	4	....	1	1	....	....	....
Bet. 45 and 49 yrs	....	....	1	....	3	3	....	....
Bet. 50 and 54 yrs	1	3	1	1	3	3	2	....
Bet. 55 and 59 yrs	3	3	1	....	1	2	....	....
Bet. 60 and 64 yrs	2	4	1	....	1	2	....	....
Bet. 65 and 69 yrs	....	5	....	....	1	3	....	....
Bet. 70 and 74 yrs	2	2	....	....	2	2	....	....
Bet. 75 and 79 yrs	....	2	....	....	....	1	....	....
Bet. 80 and 84 yrs	....	2	....	....	1	2	....	....
Bet. 85 and 89 yrs	....	2	....	....	1	....	....	....
Bet. 90 and 94 yrs	....	....	....	....	....	....	....	....
Bet. 95 and 99 yrs	....	....	....	....	....	....	....	....
Bet. 100 and 109 yrs	....	....	....	....	....	....	....	....
Total	13	27	4	3	16	21	2	....

CANCER.

by Age, Sex, Color and Months, Year 1914.

March.				April.				May.				June.			
White.		Colored.		White.		Colored.		White.		Colored.		White.		Colored.	
M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
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....	....	....	....	....	....	....	1	....	....	....	....	....	....	....	....
....	....	....	....	1	....	....	1	....	....	....	....	....	....	....	....
....	....	....	....	1	1	....	....	....	1	....	....	1	....	....	....
....	2	....	3	1	3	....	2	1	2	....	1	....	2	....	....
....	2	2	....	....	1	....	....	....	....	....	1	....	1	....	....
1	5	....	2	2	3	....	3	1	2	....	....	2	3	....	1
3	4	....	2	2	2	....	1	1	3	1	2	....	1	1	....
....	2	....	....	1	2	1	1	....	3	....	....	4	4	....	1
7	5	....	1	2	6	....	....	5	6	....	....	3	4	....	1
2	9	....	....	1	6	....	....	....	4	....	1	1	3	....	....
1	4	....	....	....	2	....	....	1	1	1	....	....	3	....	....
1	3	....	....	1	1	....	....	2	2	....	....	....	2	....	....
....	1	....	....	1	....	....	....	....	....	....	....	....	1	....	....
....	....	....	....	....	....	....	....	....	....	....	....	1	....	....	....
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....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
15	37	2	8	13	27	1	9	12	24	2	5	12	24	1	3

Continued on next page.

CANCER.

TABLE No. 4 (Continued)—*Deaths Due to Cancer,*

AGES.	July.				August.				September.			
	White.		Colored.		White.		Colored.		White.		Colored.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Under 1 month....	....	....	....	....	....	....	....	....	....	....	....	....
Bet. 1 and 3 mos.	....	....	....	....	....	....	....	....	....	....	....	....
Bet. 3 and 12 mos.	....	....	....	....	....	....	....	....	....	....	....	....
Bet. 1 and 2 yrs..	....	....	....	....	....	....	....	....	....	....	....	....
Bet. 2 and 3 yrs..	....	....	....	....	....	....	....	....	....	....	....	....
Bet. 3 and 4 yrs..	....	....	....	....	....	....	....	....	....	....	....	....
Bet. 4 and 5 yrs..	....	....	....	....	....	....	....	....	....	....	....	....
Bet. 5 and 9 yrs..	....	....	....	....	....	....	....	....	....	....	....	....
Bet. 10 and 14 yrs..	....	....	....	....	....	....	....	....	....	....	....	....
Bet. 15 and 19 yrs..	....	....	....	....	....	....	....	....	....	....	....	....
Bet. 20 and 24 yrs..	....	....	....	....	....	1	....	....	....	....	....	....
Bet. 25 and 29 yrs..	....	....	....	....	....	....	....	....	....	1	....	....
Bet. 30 and 34 yrs..	....	....	....	....	1	....	....	1	....	1	....	1
Bet. 35 and 39 yrs..	....	....	....	1	1	....	....	....	....	....	....	1
Bet. 40 and 44 yrs..	1	....	....	1	1	1	1	1	....	....	....	1
Bet. 45 and 49 yrs..	3	4	....	....	3	3	....	1	1	3	....	1
Bet. 50 and 54 yrs..	....	6	....	1	3	4	....	1	....	3	....	....
Bet. 55 and 59 yrs..	4	3	1	....	2	1	....	1	....	3	....	....
Bet. 60 and 64 yrs..	....	1	....	....	3	6	1	1	5	4	1	1
Bet. 65 and 69 yrs..	2	1	1	....	3	1	....	1	1	3	....	2
Bet. 70 and 74 yrs..	1	1	....	....	1	1	....	....	1	....	....	....
Bet. 75 and 79 yrs..	....	....	....	....	1	1	....	....	....	....	....	1
Bet. 80 and 84 yrs..	....	1	....	....	....	....	....	1	1	1	....	....
Bet. 85 and 89 yrs..	....	....	....	....	....	....	....	....	....	....	....	....
Bet. 90 and 94 yrs..	....	....	....	....	....	....	....	....	....	....	....	....
Bet. 95 and 99 yrs..	....	....	....	....	....	....	....	....	....	....	....	....
Bet. 100 and 109 yrs.	....	....	....	....	....	....	....	....	....	....	....	....
Total.....	11	17	2	3	19	19	2	8	9	19	1	8

CANCER.

Arranged by Age, Sex, Color and Months, Year 1914.

October.				November.				December.				Total.			
White.		Colored.		White.		Colored.		White.		Colored.		White.		Colored.	
M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
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....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
....	....	....	....	....	....	....	....	....	....	....	....	....	2	....	1
....	....	....	....	1	....	....	....	....	....	....	....	3	2	....	1
2	2	....	....	....	....	....	....	1	....	....	....	9	5	....	3
....	....	....	....	1	1	....	....	1	3	....	....	5	14	....	8
....	2	1	1	1	1	....	1	....	....	1	1	7	12	5	8
....	....	....	1	....	2	....	....	1	5	1	2	17	33	2	11
1	3	....	....	2	5	....	....	....	2	....	1	16	39	5	9
1	2	....	....	3	....	....	....	2	2	....	1	21	27	3	4
2	2	....	....	2	2	....	....	8	2	....	2	40	44	3	6
4	2	....	....	1	....	....	....	2	4	....	....	18	41	1	4
1	2	....	....	....	2	....	....	1	1	....	....	11	21	1	....
....	1	....	1	2	3	....	....	1	4	....	....	8	20	....	2
....	....	....	1	....	2	....	1	....	1	....	....	3	11	....	3
....	....	....	....	1	....	....	....	....	2	....	....	3	4	....	....
....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
....	....	....	....	1	....	....	....	....	....	....	....	1	....	....	....
11	16	1	4	15	18	....	2	17	26	2	7	163	275	20	60

CANCER.

TABLE NO. 5—*Deaths Due to Cancer, Arranged by Wards, Months,*

WARDS.	Non-Residents.	January.				February.			
		White.		Colored.		White.		Colored.	
		M.	F.	M.	F.	M.	F.	M.	F.
First	...	2	....	....	....	....	....	....	....
Second	...	2	1	....	....	....	....	....	....
Third	...	....	1	....	....	1	....	....	....
Fourth	10	....	....	....	....	....	1	....	....
Fifth	....	....	1	....	....	....	1	....	....
Sixth	10	....	2	....	....	2	1	....	....
Seventh	21	....	1	....	....	...	....	....	....
Eighth	....	1	2	....	....	2	1	....	....
Ninth	9	2	1	....	....	2	....	....	....
Tenth	....	....	2	....	....	1	2	....	....
Eleventh	3	....	5	....	1	....	1	....	....
Twelfth	....	1	....	....	....	....	4	1	....
Thirteenth	....	1	1	....	....	2	....	....	....
Fourteenth	24	....	....	....	....	1	1	....	....
Fifteenth	...	....	1	1	....	....	2	....	....
Sixteenth	....	....	1	....	....	1	1	....	....
Seventeenth	....	....	....	....	1	....	....	....	....
Eighteenth	1	....	2	1	....	....	1	....	....
Nineteenth	....	2	1	1	....	1	....	....	....
Twentieth	...	1	3	....	....	....	....	....	....
Twenty-first	....	....	1	....	....	1	1	....	....
Twenty-second	...	....	1	....	1	....	....	....	....
Twenty-third	...	1	....	1	....	....	....	1	....
Twenty-fourth	....	....	....	....	....	2	4	....	....
Bay View	...	....	....	....	....	....	....	....	....
Sydenham	...	....	....	....	....	....	....	....	....
Total	78	13	27	4	3	16	21	2	....

CANCER.

Color and Sex (Not Including Non-Residents), Year 1914.

March.				April.				May.				June.			
White.		Colored.		White.		Colored.		White.		Colored.		White.		Colored.	
M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
....	....	....	....	....	2	....	....	....	....	....	....	1	1	....	....
....	3	....	....	1	2	....	....	....	....	....	....	....	2	....	....
....	....	....	1	....	1	....	....	1	....	1	....	1	1	....	....
2	3	....	1	1	1	....	1	....	....	....	1	....	....	....	....
....	....	....	....	....	....	....	1	....	1	....	2	1	2	....	....
3	....	....	....	1	2	....	....	1	1	1	....	....	1	....	....
....	2	....	1	....	....	....	....	2	....	....	....	....	2	....	1
1	3	....	....	....	2	....	....	2	2	....	1	....	....	....	....
1	3	....	....	....	....	....	....	1	1	....	....	....	1	....	....
1	2	....	....	3	1	....	1	....	....	....	....	1	1	....	....
....	2	....	1	....	4	....	....	....	2	....	....	1	....	....	....
....	....	....	....	1	2	....	....	....	4	....	....	....	2	....	....
....	3	....	....	1	1	....	....	....	3	....	....	2	....	....	....
....	3	....	1	....	2	....	1	....	1	....	1	....	1	....	1
1	2	....	1	1	2	....	....	1	3	....	....	1	1	....	....
1	3	1	....	2	1	....	....	....	1	....	....	1	....	....	....
....	....	....	1	....	....	....	1	....	1	....	....	....	1	1	....
1	1	....	....	....	1	....	1	....	1	....	....	....	2	....	1
1	....	....	....	....	....	....	....	1	1	....	....	....	1	....	....
....	1	....	....	....	....	....	....	1	1	....	....	1	1	....	....
....	1	....	....	1	1	....	....	1	1	....	....	....	1	....	....
....	1	....	1	....	1	1	2	....	....	....	....	1	1	....	....
1	1	1	....	1	....	....	....	....	....	....	....	....	....	....	....
2	3	....	....	....	1	....	....	....	....	....	....	1	2	....	....
....	....	....	....	....	....	....	1	1	....	....	....	....	....	....	....
....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
15	37	2	8	13	27	1	9	12	24	2	5	12	24	1	3

Continued on next page.

CANCER.

TABLE No. 5 (Continued)—*Deaths Due to Cancer, Arranged by Wards,*

WARDS.	July.				August.				September.			
	White.		Colored.		White.		Colored.		White.		Colored.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
First	3									2		
Second	1				1	1						
Third	1	1				3			1			
Fourth	1			1	1	1			1			
Fifth		2					1					
Sixth		1	1			1				3		
Seventh		1		1	1				3	1		
Eighth					2	1		1		2		1
Ninth	2	1			2	1				1		
Tenth	1	2			1				1			
Eleventh						1		2		1		
Twelfth	1	1								2		
Thirteenth					3	1						
Fourteenth		2				1	1		1			1
Fifteenth		1				3				1	1	1
Sixteenth		2		1					1	2		1
Seventeenth			1									2
Eighteenth		1						1				
Nineteenth					2			3		1		
Twentieth		1				2						
Twenty-first						1		1				
Twenty-second												1
Twenty-third	1				1					1		1
Twenty-fourth		1			2	2			1	2		
Bay View					3							
Sydenham												
Total	11	17	2	3	19	19	2	8	9	19	1	8

CANCER.

Months, Color and Sex (Not Including Non-Residents), Year 1914.

October.				November.				December.				Total.			
White.		Colored.		White.		Colored.		White.		Colored.		White.		Colored.	
M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
....	1	....	....	1	1	....	....	....	....	....	....	7	7	....	....
....	....	....	....	2	1	....	....	1	1	....	....	8	11	....	....
....	....	....	....	....	....	....	....	1	1	....	....	6	8	1	1
1	1	....	1	1	1	....	....	1	....	....	....	9	8	....	5
....	....	....	....	1	....	....	....	....	....	....	1	2	7	1	4
1	....	....	....	....	2	....	....	....	2	....	....	8	16	2	....
1	1	....	....	....	1	....	....	1	1	....	....	8	10	....	3
1	....	....	....	2	1	....	....	2	2	....	....	13	16	....	3
1	....	....	....	....	....	....	....	3	2	....	....	14	11	....	....
....	1	....	1	2	2	....	....	1	3	1	....	12	16	1	2
1	1	....	....	1	2	....	....	1	2	....	3	4	21	....	7
....	1	....	....	....	....	....	....	2	2	....	....	5	18	1	....
....	....	....	....	....	....	....	....	....	....	....	....	9	9	....	....
1	....	....	....	....	....	....	....	....	....	....	....	3	11	1	5
2	3	....	....	....	2	....	1	1	2	....	....	7	23	2	3
....	1	....	....	....	1	....	....	....	3	....	1	6	16	1	3
....	....	....	....	....	....	....	1	....	....	1	1	....	2	3	7
....	1	1	1	....	....	....	....	....	2	....	....	1	12	2	4
....	1	....	....	2	1	....	....	1	1	....	....	10	7	1	3
....	2	....	....	....	2	....	....	....	....	....	....	3	13	....	....
....	2	....	....	1	....	....	....	....	1	....	....	4	10	....	1
1	....	....	....	....	....	....	....	1	....	....	1	3	4	1	6
....	....	....	1	1	1	....	....	....	1	....	....	6	4	3	2
1	....	....	....	1	....	....	....	....	....	....	....	10	15	....	....
....	....	....	....	....	....	....	....	1	....	....	....	5	....	....	1
....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
11	16	1	4	15	18	....	2	17	26	2	7	163	275	20	60

CANCER.

TABLE No. 6—*Deaths Due to Cancer, Arranged by Occupation and Social Condition, Year* 1914.

Accountants	1	Moulders	1
Agents (commission)	2	Merchants	5
Brewers	2	Mechanics	1
Bakers	2	Mill hands	2
Bartenders	1	Mariners	2
Butchers	2	Newspaper carriers	1
Builders and contractors	1	Oystermen	1
Brickmakers	1	Painters	1
Bookkeepers, clerks	8	Preachers	1
Carpenters	2	Packers	1
Caterers	1	Paperhangers	1
Coal dealers	1	Peddlers	1
Companions	1	Plumbers	2
Confectioners	1	Policemen and watchmen	3
Cabinetmakers	2	Produce dealers	2
Collectors	1	Printers and engravers	2
Cigarmakers	1	Religieuse	1
Cooks	6	Processors	1
Coopers	1	Restaurantkeepers	1
Cloth pressers	2	Saloonkeepers	2
Drivers	4	Salesmen	2
Dressmakers and seamstresses	8	Saleswomen	1
Domestics	37	Seamen	1
Engineers (marine)	1	Solicitors	1
Engineers (stationary engine)	2	Steam railway employees	7
Furniture movers	1	Street railway employees	1
Factors hands	1	Stonemasons	1
Farmers	2	Shoemakers	1
Firemen (stationary engine)	3	Sextons	2
Grocers	3	Ship carpenters	1
Gardeners	1	Storekeepers	3
Glassblowers	1	Servants	1
Housewives	156	Superintendents	2
Hucksters	1	Stevedores	2
Inspectors	1	Tailors or tailoresses	6
Ironworkers	1	Teamsters	2
Janitresses	1	Teachers	5
Laborers	30	Tinners	1
Launderers or laundresses	10	Telephone operators	1
Lawyers	3	Weavers	1
Lamplighters	1	Woodworkers	1
Machinists	4	No occupation	129
Manufacturers	3		

Social Condition.

Unknown	1	Widows	131
Divorced	9	Widowers	28
Single	74		
Married	275	Total	518

HEART DISEASES.

TABLE No. 1—*Showing Deaths by Wards,*

WARDS.	January.				February.			
	White.		Colored.		White.		Colored.	
	M.	F.	M.	F.	M.	F.	M.	F.
First	1	2	....	....	2	....	....	....
Second	....	2	....	....	2	....	....	....
Third	1	4	....	....	1	1	....	1
Fourth	....	1	....	1	2	....	....	....
Fifth	1	....	....	....	1	3	2	2
Sixth	2	....	....	....	1	3	....	....
Seventh	1	1	1	1	....	1	....	....
Eighth	....	1	....	....	3	2	....	1
Ninth	2	1	....	....	1	3	....	....
Tenth	2	5	....	1	1	....	1	....
Eleventh	1	2	1	....	2	1	1	2
Twelfth	3	4	....	....	3	1	....	....
Thirteenth	1	1	....	....	3	1	....	....
Fourteenth	2	2	2	....	....	....	2	2
Fifteenth	4	3	....	2	....	6	3	....
Sixteenth	1	2	....	....	1	3	....	....
Seventeenth	1	....	....	1	....	....	....	....
Eighteenth	3	3	1	2	1	....	....	2
Nineteenth	1	4	1	2	2	3	....	3
Twentieth	1	....	....	1	1	2	....	....
Twenty-first	1	1	1	3	2	3	....	1
Twenty-second	1	2	....	1	....	1	1	1
Twenty-third	....	3	....	....	....	1	....	....
Twenty-fourth	1	1	....	....	4	1	....	....
Bay View	....	....	....	....	....	....	1	....
Sydenham	....	....	....	....	....	....	....	....
Total	31	45	7	15	33	36	11	15

HEART DISEASES.

Months, Color and Sex, Year 1914.

March.				April.				May.				June.			
White.		Colored.		White.		Colored.		White.		Colored.		White.		Colored.	
M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
1	1	....	....	1	1	....	....	3	1	....	1	....	2	....	....
3	1	1	....	....	1	....	....	1	1	....	....	2	3	....	....
1	2	1	....	3	....	....	....	3	....	....	....	....	1	....	....
1	2	2	....	2	....	....	....	1	1	....	....	....	....	2	2
2	1	....	1	3	....	1	....	2	2	3	1	....	....	....	....
2	2	....	2	1	3	....	1	1	1	1	1	1	2	....	2
1	1	....	1	....	1	1	1	2	2	....	1	1	1	2	1
2	2	....	....	1	1	1	....	1	1	....	....	2	2	....	....
4	4	....	....	2	2	....	....	3	1	....	....	2	2	....	....
2	4	....	....	....	1	....	....	4	2	....	....	3	....	....	....
1	....	....	....	2	1	1	....	....	....	2	1	1	1	1	1
1	2	....	....	2	3	1	....	....	1	1	....	4	....	1	....
3	4	....	....	....	2	....	....	2	2	....	....	....	....	....	....
1	....	1	....	1	1	2	....	2	....	....	2	1	....	....	1
6	1	....	....	1	2	2	....	1	1	....	....	2	2	....	....
4	2	....	1	....	2	1	1	2	1	....	....	1	1	....	1
....	2	2	7	....	....	2	4	....	1	1	2	....	1	4	1
1	2	2	3	3	....	1	....	1	....	1	....	....	1	2	....
1	1	....	1	1	1	....	....	3	1	....	....	1	....	1	....
2	2	....	....	1	....	....	....	1	1	....	1	1	1	....	....
1	....	....	....	1	1	1	....	1	....	....	....	1	3	....	....
2	....	1	....	1	1	2	1	....	1	1	1	....	....	....	1
....	4	1	1	1	2	....	....	....	....	....	....	....	2	....	....
1	3	....	....	....	2	....	....	....	....	....	....	....	....	....	....
....	....	....	....	2	....	....	1	1	1	....	....	....	....	....	....
....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
43	43	11	17	29	28	16	9	35	22	10	11	23	25	13	10

Continued on next page.

HEART DISEASES.

TABLE No. 1 (Continued)—*Showing Deaths by*

WARDS.	July.				August.				September.			
	White.		Colored.		White.		Colored.		White.		Colored	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
First	1	4	....	....	1	2	....	....	1	1	....	....
Second	2	....	1	....	1	....	1	....	1	....	....	....
Third	2	....	....	....	....	2	....	1	....	1	1	....
Fourth	2	....	....	4	1	....	1	1	....	1	1	3
Fifth	1	1	1	1	....	....	....	1	3	2	1	....
Sixth	3	1	2	....	2	....	....	....	1	1	....	....
Seventh	....	1	....	....	1	3	....	1	3	2	....	....
Eighth	1	....	....	....	....	....	1	....	2	3	....	....
Ninth	4	1	....	....	2	....	....	....	1	2	....	....
Tenth	2	....	....	1	....	....	....	....	....	2	....	1
Eleventh	....	....	....	....	....	1	....	2	....	1	1	....
Twelfth	....	1	....	1	3	1	1	....	1	....	....	....
Thirteenth	1	1	....	....	2	1	....	....	1	....	....	....
Fourteenth	2	....	1	2	....	1	2	3	1	1	1	....
Fifteenth	....	....	1	....	1	2	....	....	1	3	....	1
Sixteenth	2	1	2	....	2	....	1	....	2	1	1	1
Seventeenth	....	....	2	4	....	....	....	....	....	1	....	3
Eighteenth	1	2	1	....	....	3	....	1	1	1	2	1
Nineteenth	1	....	....	1	1	....	....	....	1	....	....	1
Twentieth	1	1	....	....	1	....	1	....	3	2	....	....
Twenty-first	1	1	....	....	....	....	....	....	1	....	....	....
Twenty-second	....	....	....	....	....	2	....	....	1	....	....	....
Twenty-third	....	....	2	....	1	1	....	....	1	....	....	....
Twenty-fourth	....	....	....	....	....	1	....	....	....	....	....	....
Bay View	....	....	2	....	2	....	....	....	....	....	....	....
Sydenham	....	....	....	....	....	....	....	....	....	....	....	....
Total	27	15	15	14	21	20	8	10	26	25	8	11

HEART DISEASES.

Wards, Months, Color and Sex, Year 1914.

October.				November.				December.				Total.			
White.		Colored.		White.		Colored.		White.		Colored.		White.		Colored.	
M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
1	....	....	....	3	1	....	....	2	1	....	....	17	16	....	1
2	3	....	....	....	1	....	....	2	3	....	....	16	15	3	....
2	2	1	1	1	1	....	....	1	2	....	....	15	16	3	3
2	1	....	*2	1	2	1	....	....	1	1	1	12	9	8	14
1	1	1	....	....	1	1	1	1	1	3	4	15	12	13	11
....	....	1	....	3	2	....	4	4	3	....	....	21	18	4	10
....	....	....	....	2	....	....	....	1	1	....	1	12	14	4	7
6	1	....	1	4	2	....	....	3	4	....	....	25	19	2	2
2	....	....	....	2	2	....	....	1	3	1	....	26	21	1	....
....	2	....	....	2	3	....	....	....	2	....	....	16	21	1	3
1	....	2	1	4	2	....	2	....	2	....	3	12	11	9	12
2	1	....	....	1	1	....	1	2	3	1	1	22	18	5	3
2	2	....	....	2	....	....	....	1	3	....	....	18	17	....	....
1	1	1	....	....	1	1	2	....	1	2	2	11	8	15	14
1	....	1	1	....	4	....	....	2	1	....	....	19	25	7	4
2	2	....	1	2	4	....	1	....	3	1	....	19	22	6	6
....	....	2	3	....	....	4	....	....	1	1	3	1	6	18	28
1	2	1	....	1	2	....	1	2	6	1	1	15	22	12	11
1	2	1	....	4	1	1	....	2	2	....	....	19	15	4	8
2	2	....	1	1	3	....	....	1	1	....	....	16	15	1	3
....	....	....	....	....	1	....	....	1	2	....	....	10	12	2	4
2	1	....	1	....	2	1	....	2	....	....	1	9	10	6	7
1	2	....	....	3	....	....	....	....	1	1	....	7	16	4	1
2	3	....	....	1	1	....	....	....	1	....	....	9	13	....	....
....	....	....	....	....	....	1	....	....	....	....	....	5	1	4	1
....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
34	28	11	12	37	37	10	12	28	48	12	17	367	372	132	153

*Japanese.

HEART DISEASES.

TABLE No. 2—*Showing Deaths by Age,*

AGES.	January.				February.			
	White.		Colored.		White.		Colored.	
	M.	F.	M.	F.	M.	F.	M.	F.
Under 1 month					1			
Bet. 1 and 3 mos								
Bet. 3 and 12 mos								
Bet. 1 and 2 yrs								
Bet. 2 and 3 yrs								
Bet. 3 and 4 yrs								
Bet. 4 and 5 yrs								
Bet. 5 and 9 yrs	2	1					1	3
Bet. 10 and 14 yrs					1			
Bet. 15 and 19 yrs				2				
Bet. 20 and 24 yrs	1					1		
Bet. 25 and 29 yrs	1	2			1			
Bet. 30 and 34 yrs	1		1			2		3
Bet. 35 and 39 yrs		2	1	1	1		1	1
Bet. 40 and 44 yrs	3	2					4	
Bet. 45 and 49 yrs		2		3	4	1	2	5
Bet. 50 and 54 yrs	4	7	2	2	6	2	2	1
Bet. 55 and 59 yrs	6	2	1	4	3	6		2
Bet. 60 and 64 yrs	3	5	1	1	6	2		
Bet. 65 and 69 yrs	3	5	1	1	4	11		
Bet. 70 and 74 yrs	5	5		1	3	3	1	
Bet. 75 and 79 yrs	1	3			3	2		
Bet. 80 and 84 yrs	1	8				4		
Bet. 85 and 89 yrs		1				1		
Bet. 90 and 94 yrs						1		
Bet. 95 and 99 yrs								
Total	31	45	7	15	33	36	11	15

HEART DISEASES.

Months, Color and Sex, Year 1914.

March.				April.				May.				June.			
White.		Colored.		White.		Colored.		White.		Colored.		White.		Colored.	
M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
1	....	....	....	....	....	....	....	1	....	....	....	....	....	....	....
1	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....
....	....	....	....	....	....	....	....	....	....	....	1	....	....	1	....
....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
....	....	....	....	...	1	....	....	....	....	....	....	....	....	1	....
....	....	....	....	1	....	....	1	....	....	....	....	....	....	....	....
1	....	....	....	....	1	....	....	....	....	....	....	....	2	....	1
....	1	....	....	....	....	....	....	....	1	....	....	1	....	1	....
2	2	....	....	1	....	....	....	1	....	....	1	1	2	....	....
1	1	....	2	....	....	1	....	1	2	....	....	....	1	....	....
1	3	....	....	1	....	1	....	....	....	1	....	1	....	....	....
2	....	....	2	....	....	....	1	2	2	....	2	2	....	1	....
....	5	4	3	2	....	....	1	....	....	....	1	....	....	1	....
....	3	1	2	4	....	1	1	2	1	....	....	....	....	1	....
2	3	1	2	2	1	3	....	1	3	1	1	....	1	....	3
3	2	1	2	3	4	1	2	4	....	3	3	4	1	4	3
4	4	1	....	1	5	1	....	5	2	3	....	4	1	....	....
5	4	1	4	....	5	3	2	7	2	1	....	2	3	1	2
8	2	1	....	5	2	....	....	3	3	....	....	1	2	....	....
6	2	....	....	2	1	3	1	2	....	1	1	2	4	1	....
5	4	1	....	6	5	2	....	3	3	....	....	4	4	1	1
1	5	....	....	1	2	....	....	2	3	....	1	1	3	....	....
....	1	....	....	....	1	....	....	1	....	....	....	....	....	....	....
....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
....	....	....	....	....	....	....	....	....	....	....	....	....	1	....	....
43	43	11	17	29	28	16	9	35	22	10	11	23	25	13	10

Continued on next page.

HEART DISEASES.

TABLE No. 2 (Continued)—*Showing Deaths by*

AGES.	July.				August.				September.			
	White.		Colored.		White.		Colored.		White.		Colored.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Under 1 month												
Bet. 1 and 3 mos.									1			
Bet. 3 and 12 mos.												
Bet. 1 and 2 yrs.	1											
Bet. 2 and 3 yrs.												
Bet. 3 and 4 yrs.									1			
Bet. 4 and 5 yrs.					1							
Bet. 5 and 9 yrs.	1								3			
Bet. 10 and 14 yrs.	3									1		
Bet. 15 and 19 yrs.		1			1	1						
Bet. 20 and 24 yrs.				1	1					1		1
Bet. 25 and 29 yrs.				1		2	2	1	1			1
Bet. 30 and 34 yrs.	1		2					2			1	1
Bet. 35 and 39 yrs.		1		3	1	2	2					
Bet. 40 and 44 yrs.			3		1	1	1	2	2	2		
Bet. 45 and 49 yrs.	2	2		3	2	2	1	1		3		1
Bet. 50 and 54 yrs.	1		2	1	1	2	2	1	3		3	3
Bet. 55 and 59 yrs.	2	2	1	1	2	1			5	3	1	
Bet. 60 and 64 yrs.	5	1	3		4	2		1	3	3	1	1
Bet. 65 and 69 yrs.	3	3		2	2	2		1	2	4		3
Bet. 70 and 74 yrs.	4	4	1	1		1		1	4	1	1	
Bet. 75 and 79 yrs.	2	1	3	1	3	1				5	1	
Bet. 80 and 84 yrs.	2				2	2				1		
Bet. 85 and 89 yrs.						1			1			
Bet. 90 and 94 yrs.										1		
Bet. 95 and 99 yrs.												
Total	27	15	15	14	21	20	8	10	26	25	8	11

HEART DISEASES.

Age, Months, Color and Sex, Year 1914.

October.				November.				December.				Total.			
White.		Colored.		White.		Colored.		White.		Colored.		White.		Colored.	
M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
....	....	....	....	....	....	....	....	....	....	....	....	3	....	....	....
....	....	....	....	....	....	....	....	....	....	....	....	2	1	....	....
1	....	....	....	....	....	....	....	....	....	....	....	1	....	1	1
....	1	....	....	....	....	....	....	....	....	....	....	1	1	....	....
....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
1	....	....	....	....	....	....	....	....	....	....	....	2	1	1	....
....	....	....	....	....	....	....	....	....	....	....	....	2	....	....	1
....	....	....	....	1	....	....	....	....	2	....	....	8	6	1	4
1	....	....	....	1	1	....	....	....	....	....	....	7	4	1	....
....	1	....	....	....	1	....	....	....	1	....	....	6	9	....	3
....	2	....	....	1	1	....	....	1	1	....	....	6	10	1	4
1	....	....	1	....	1	....	1	....	....	....	2	7	8	4	7
3	....	1	1	2	2	2	....	....	1	....	....	13	7	8	12
....	1	....	1	3	....	....	1	....	....	2	....	7	11	11	12
....	1	2	2	3	....	4	3	1	2	1	1	16	12	18	11
3	2	2	....	3	2	1	....	2	2	2	3	21	24	13	22
2	1	....	2	3	2	....	2	3	2	3	3	37	23	23	25
4	1	....	2	6	4	....	....	4	5	....	2	46	36	8	11
4	6	....	1	3	4	....	2	2	1	2	1	44	38	13	15
4	2	3	1	4	5	1	....	5	11	2	2	44	52	8	10
4	3	1	1	5	....	1	1	3	10	....	....	40	34	10	7
3	1	1	....	1	6	....	1	2	4	....	1	33	39	9	4
3	2	1	....	1	6	1	....	3	4	....	1	17	40	2	2
....	3	....	....	....	2	....	1	2	1	....	....	4	11	....	1
....	1	....	....	....	....	....	....	....	1	....	1	....	4	....	1
....	....	....	....	....	....	....	....	....	....	....	....	....	1	....	....
34	28	11	12	37	37	10	12	28	48	12	17	367	372	132	153

HEART DISEASES.

TABLE No. 3—*Showing Deaths by Occupation and Social Condition, Year* 1914.

Artists	1	Firemen (Fire Department)	1
Auctioneers	1	Florists	2
Agents (insurance)	2	Grocers	3
Agents (real estate)	1	Gardeners	1
Agents (not specified)	2	Glaziers	2
Bakers	2	Glassblowers	1
Barbers	7	Government employees	1
Bartenders	3	Harnessmakers	1
Brokers (commercial)	1	Hatters	1
Boilermakers	2	Housewives	184
Builders and contractors	4	Horse trainers	1
Bricklayers	1	Hostlers	1
Blacksmiths	3	Inspectors	1
Bookkeepers, clerks	20	Ironworkers	4
Bookbinders	1	Jobbers	1
Carpenters	10	Janitors	6
Cashiers	1	Jewelers	1
Charwomen	1	Junk dealers	2
Coal dealers	2	Laborers	112
Confectioners	1	Launderers or laundresses	29
Chairmakers	1	Laundry work (steam)	2
Chauffeurs	1	Lawyers	2
Coachmen	2	Livery stable keepers	1
Carriage and wagon makers	1	Lumber dealers	1
Clergymen	3	Machinists	5
Canmakers	1	Marble polishers	1
Cigarmakers	2	Manufacturers	2
Commercial travelers	2	Moulders	4
Cooks	14	Merchants	11
Coopers	3	Managers	3
Cutters	3	Mechanics	2
Cloth pressers	1	Metalworkers	1
Drivers	12	Millers	2
Dressmakers and seamstresses	8	Mill hands	1
Draftsmen	1	Ministers	1
Druggists	2	Musicians	1
Domestics	80	Nurses	5
Engineers (electrical)	1	Newspaper carriers	2
Engineers (civil)	1	Oyster shuckers	1
Engineers (stationary engine)	2	Painters	3
Elevator boys	1	Plasterers	1
Expressmen	1	Preachers	2
Foremen	2	Peddlers	1
Factory hands	1	Physicians	6
Farmers	4	Plumbers	4
Firemen (stationary engine)	2	Policemen and watchmen	5

HEART DISEASES.

TABLE No. 3 (Continued)—*Showing Deaths by Occupation and Social Condition, Year* 1914.

Postoffice employees	2	Servants	7
City employees	1	Superintendents	3
Produce dealers	1	Steamfitters	1
Porters	3	Stenographers	1
Printers and engravers	4	Stevedores	4
Religieuse	1	School children	18
Salesmen	5	Tailors or tailoresses	10
Saleswomen	1	Teamsters	1
Seamen	5	Teachers	3
Steam railway employees	11	Tinners	1
Street railway employees	1	Traveling salesmen	2
Shirt factory hands	2	Upholsterers	2
Shoemakers	7	Waiters	5
Stonecutters	1	Whitewashers	1
Storekeepers	2	Woodworkers	2
Secretaries	1	No occupation	272

Social Condition.

Unknown	14	Widows	245
Divorced	3	Widowers	105
Married	438		
Single	219	Total	1,024

BRIGHT'S DISEASE.

TABLE No. 1—*Showing Deaths by Wards,*

WARDS.	January.				February.			
	White.		Colored.		White.		Colored.	
	M.	F.	M.	F.	M.	F.	M.	F.
First	3	2	....	....	1	....	....	....
Second	3	1	....	....	....	1	....	....
Third	1	2	....	1	2	....	....	....
Fourth	1	....	1	....	2	1	1	....
Fifth	....	1	....	....	....	1	1	....
Sixth	1	....	....	....	....	1	....	....
Seventh	2	2	....	2	....	....	....	....
Eighth	3	....	....	....	....	1	....	....
Ninth	....	1	....	1	....	3	....	....
Tenth	2	4	1	....	....	2	....	....
Eleventh	2	1	....	....	1	1	1	....
Twelfth	....	2	1	....	....	1	2	....
Thirteenth	1	2	....	....	2	3	....	....
Fourteenth	1	3	....	1	1	1	....	3
Fifteenth	5	1	....	....	1	3	1	....
Sixteenth	....	4	....	....	2	1	1	1
Seventeenth	....	....	1	....	....	1	1	4
Eighteenth	....	1	....	....	2	1	....	....
Nineteenth	1	....	....	....	....	4	....	....
Twentieth	5	2	....	....	1	4	....	....
Twenty-first	....	4	....	1	....	....	....	....
Twenty-second	....	1	1	....	....	....	....	....
Twenty-third	1	....	1	....	1	1	1	....
Twenty-fourth	2	2	....	....	2	2	....	....
Bay View	....	....	....	....	....	....	....	....
Sydenham	....	....	....	....	....	....	....	....
Total	34	36	6	6	18	33	9	8

BRIGHT'S DISEASE.

Months, Color and Sex, Year 1914.

March.				April.				May.				June.			
White.		Colored.		White.		Colored.		White.		Colored.		White.		Colored.	
M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
4	3	....	....	2	2	....	....	1	2	....	....	1	....	....	....
....	....	....	....	4	1	....	....	....	2	....	....	2	1	....	....
....	1	1	....	....	....	....	....	1	1	....	....	....	....	....	....
1	....	3	1	3	....	....	....	2	1	1	1	1	1	1	1
1	....	1	....	1	....	1	....	....	....	1	....	....	....	....	....
1	2	....	....	1	1	....	....	1	....	....	....	....	....	....	....
1	3	....	....	4	2	....	....	3	1	....	....	1	1	....	....
4	....	....	....	2	....	....	....	....	2	....	....	3	1	....	1
....	1	....	....	....	....	....	....	3	1	1	....	1	....	....	....
2	1	1	....	1	2	....	....	2	....	1	....	3	1	1	....
....	....	....	....	....	1	1	....	....	1	1	1	....	....	1	....
2	....	....	....	1	1	....	....	1	1	....	....	1	1	....	....
4	2	....	1	1	2	....	....	3	2	....	....	2	....	....	....
1	2	....	2	....	....	2	2	2	1	....	....	2	1	1	....
2	2	1	3	1	2	....	....	2	5	....	2	1	....	2	....
1	5	....	1	3	2	....	....	4	5	....	1	2	2	....	....
1	....	1	1	....	....	2	1	1	1	....	2	1	....	....	1
1	1	2	....	2	2	4	....	3	1	....	1	2	3	1	....
1	....	....	1	5	1	....	1	1	2	....	....	1	3	....	....
....	3	....	....	1	1	....	....	5	2	....	....	1	2	....	....
2	1	....	....	5	1	1	1	2	4	1	....	2	2	....	....
....	....	....	....	1	1	1	....	....	1	1	1	3	....	....	....
3	2	....	....	....	1	....	....	....	....	....	1	3	....	....	....
1	2	....	....	....	1	....	....	2	1	....	....	....	1	....	....
1	....	....	....	....	....	....	....	1	....	....	....	....	....	....	....
....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
34	31	10	10	38	24	12	5	40	37	7	10	33	20	7	3

Continued on next page.

BRIGHT'S DISEASE.

TABLE No. 1 (Continued)—*Showing Deaths by*

WARDS.	July.				August.				September.			
	White.		Colored.		White.		Colored.		White.		Colored.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
First	1	2	....	....	2	2	....	....	1	1	....	....
Second	....	2	....	....	1	....	....	....	....	....	....	....
Third	....	1	....	....	....	1	....	1	....	1	....	....
Fourth	....	1	....	....	2	3	....	....	....	....	2	....
Fifth	....	....	1	....	....	....	....	1	....	....	1	....
Sixth	3	2	....	....	2	1	....	....	1	2	1	....
Seventh	....	3	....	....	....	1	....	1	1	....	....	....
Eighth	4	....	....	....	1	1	....	....	1	1	....	....
Ninth	....	....	....	....	....	....	....	....	2	....	....	....
Tenth	2	1	1	....	1	2	1	1	2	1	....	....
Eleventh	....	1	....	....	1	....	....	....	1	....	....	....
Twelfth	1	1	1	....	....	2	....	1	1	....	1	....
Thirteenth	....	....	....	....	1	1	....	....	....	2	....	....
Fourteenth	2	1	....	2	1	1	3	1	....	1	....	1
Fifteenth	....	1	2	1	4	2	1	....	....	1	2	....
Sixteenth	2	1	1	1	1	2	....	2	1	1	....	1
Seventeenth	....	2	....	....	....	1	1	2	....	1	2	....
Eighteenth	1	1	....	....	....	3	....	....	2	....	....	....
Nineteenth	2	1	1	1	1	1	....	1	....	1	....	....
Twentieth	1	1	1	....	2	2	....	1	1	3	....	....
Twenty-first	....	2	....	....	1	2	....	....	1	1	....	....
Twenty-second	1	....	....	....	3	1	1	....	2	....	....	....
Twenty-third	2	2	....	....	1	1	....	....	1	1	....	....
Twenty-fourth	....	1	....	....	1	3	....	....	....	2	1	....
Bay View	....	....	....	....	....	....	....	....	....	....	....	....
Sydenham	....	....	....	....	....	....	....	....	....	....	....	....
Total	22	27	8	5	26	33	7	12	18	20	10	2

BRIGHT'S DISEASE.

Wards, Months, Color and Sex, Year 1914.

October.				November.				December.				Total.			
White.		Colored.		White.		Colored.		White.		Colored.		White.		Colored.	
M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
3	1	....	....	2	1	....	....	3	1	....	....	24	17	....	....
....	....	....	....	1	....	....	....	....	1	....	....	11	9	....	....
....	....	....	....	1	1	....	....	2	....	....	....	7	8	1	2
1	1	1	....	....	3	1	3	1	....	....	1	14	11	11	7
....	1	1	....	1	1	1	....	1	....	....	2	4	4	8	3
1	1	....	1	....	....	1	....	2	3	....	....	13	13	2	1
1	1	....	....	....	4	1	1	2	2	....	....	15	20	1	4
3	1	....	....	1	1	....	....	3	1	....	....	25	9	....	1
1	....	....	....	1	2	....	....	4	3	....	....	12	11	1	1
....	1	....	....	2	....	....	....	1	....	....	....	18	15	6	1
....	2	....	....	....	1	....	....	....	3	....	....	5	11	4	1
1	2	....	....	2	3	....	....	1	3	....	....	11	17	5	1
1	....	....	....	1	....	....	....	1	1	....	....	17	15	....	1
....	....	....	1	1	1	1	3	1	1	1	1	12	13	8	17
3	2	1	....	1	4	1	....	1	1	1	....	21	24	12	6
1	1	1	....	....	1	....	....	2	1	1	1	19	26	4	8
1	....	1	1	1	2	4	1	2	1	2	4	7	9	15	17
1	....	....	....	1	1	....	1	6	....	1	1	21	14	8	3
....	....	....	....	3	1	....	....	1	5	....	....	16	19	1	4
....	3	....	....	....	....	....	....	3	5	....	....	20	28	1	1
....	1	....	....	2	1	2	....	1	....	....	....	16	19	4	2
2	....	....	....	....	....	....	1	....	....	....	1	12	4	4	3
....	2	....	1	....	1	....	....	2	2	1	....	14	13	3	2
2	1	....	....	3	....	....	....	1	2	....	....	14	18	1	....
....	....	....	....	....	....	....	....	....	....	1	....	2	....	1	....
....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
22	21	5	4	24	29	12	10	41	36	8	11	350	347	101	86

BRIGHT'S DISEASE.

TABLE No. 2—*Showing Deaths by Age,*

AGES.	January.				February.			
	White.		Colored.		White.		Colored.	
	M.	F.	M.	F.	M.	F.	M.	F.
Under 1 month	....	....	....	....	....	....	....	....
Bet. 1 and 3 mos	....	1	....	....	....	....	....	....
Bet. 3 and 12 mos	....	....	....	....	....	....	1	....
Bet. 1 and 2 yrs	....	....	....	....	....	....	....	....
Bet. 2 and 3 yrs	....	1	....	....	....	....	....	....
Bet. 3 and 4 yrs	....	1	....	....	....	....	....	....
Bet. 4 and 5 yrs	1	....	....	....	....	....	....	....
Bet. 5 and 9 yrs	....	....	....	....	....	....	....	....
Bet. 10 and 14 yrs	....	....	....	....	....	....	....	....
Bet. 15 and 19 yrs	....	1	....	1	....	1	....	....
Bet. 20 and 24 yrs	1	....	....	....	....	....	....	....
Bet. 25 and 29 yrs	1	1	....	....	....	....	....	....
Bet. 30 and 34 yrs	....	1	1	....	....	2	1	....
Bet. 35 and 39 yrs	3	....	1	....	1	1	....	....
Bet. 40 and 44 yrs	2	4	....	1	1	1	1	1
Bet. 45 and 49 yrs	2	5	....	....	....	2	....	2
Bet. 50 and 54 yrs	4	1	1	....	1	5	....	....
Bet. 55 and 59 yrs	2	3	2	....	1	3	....	3
Bet. 60 and 64 yrs	5	5	....	1	3	4	3	....
Bet. 65 and 69 yrs	5	4	1	....	1	2	1	1
Bet. 70 and 74 yrs	4	3	....	1	4	4	1	....
Bet. 75 and 79 yrs	2	2	....	....	3	3	1	....
Bet. 80 and 84 yrs	....	1	....	2	3	3	....	1
Bet. 85 and 89 yrs	2	2	....	....	....	2	....	....
Bet. 90 and 94 yrs	....	....	....	....	....	....	....	....
Bet. 95 and 99 yrs	....	....	....	....	....	....	....	....
Total	34	36	6	6	18	33	9	8

BRIGHT'S DISEASE.

Months, Color and Sex, Year 1914.

March.				April.				May.				June.			
White.		Colored.		White.		Colored.		White.		Colored.		White.		Colored.	
M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
....	....	....	....	....	1	....	....	....	1	....	....	....	....	....	....
....	....	....	....	....	....	....	....	....	....	1	....	....	....	....	....
....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
....	....	....	....	2	....	....	....	....	....	....	....	....	....	....	....
....	....	....	....	1	....	1	....	....	....	....	....	....	....	....	....
1	2	....	....	....	....	....	....	1	....	....	....	2	....	....	....
1	....	....	....	....	....	1	....	....	....	1	1	1	....	1	....
....	....	....	....	....	1	....	....	1	....	1	....	....	....	....	....
1	....	....	1	....	....	1	1	1	2	....	....	2	....	....	1
1	....	....	....	2	....	....	3	1	1	1	1	3	2	3	1
3	5	1	2	3	2	4	1	1	1	....	1	1	3	....	1
2	3	2	....	2	1	....	....	6	2	....	2	3	2	1	....
4	4	1	2	8	1	1	....	6	3	....	1	5	2	1	....
3	3	1	1	4	2	2	....	3	5	1	1	2	2	....	....
5	3	3	1	4	1	1	....	5	4	1	2	1	3	1	....
5	7	1	1	5	4	1	....	5	4	....	1	6	....	....	....
5	2	1	1	4	6	....	....	5	6	1	....	3	3	....	....
2	2	....	....	1	2	....	....	4	5	....	....	3	2	....	....
1	....	....	1	1	2	....	....	1	1	....	....	1	1	....	....
....	....	....	....	1	1	....	....	....	1	....	....	....	....	....	....
....	....	....	....	....	....	....	....	....	1	....	....	....	....	....	....
....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
34	31	10	10	38	24	12	5	40	37	7	10	33	20	7	3

Continued on next page.

BRIGHT'S DISEASE.

TABLE No. 2 (Continued)—*Showing Deaths by*

AGES.	July.				August.				September.			
	White.		Colored.		White.		Colored.		White.		Colored.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Under 1 month												
Bet. 1 and 3 mos.												
Bet. 3 and 12 mos.												
Bet. 1 and 2 yrs.												
Bet. 2 and 3 yrs.												
Bet. 3 and 4 yrs.												
Bet. 4 and 5 yrs.												
Bet. 5 and 9 yrs.					1					1		
Bet. 10 and 14 yrs.					1							
Bet. 15 and 19 yrs.			1									
Bet. 20 and 24 yrs.						1		1				
Bet. 25 and 29 yrs.							1	1				
Bet. 30 and 34 yrs.		2				1			1		1	
Bet. 35 and 39 yrs.	3	1	1		2	4		1	1		3	
Bet. 40 and 44 yrs.	2	3	1	1	3	2	1	2	1	2	1	1
Bet. 45 and 49 yrs.	2	3	1	2	2	3	2		2			
Bet. 50 and 54 yrs.	1	1	2	1	1		1			2	3	1
Bet. 55 and 59 yrs.	2	4	1		5	3	1	1	3	1	2	
Bet. 60 and 64 yrs.	3	1			2	4	1			2		
Bet. 65 and 69 yrs.	2	5	1		2	3		2	5	4		
Bet. 70 and 74 yrs.	1			1	3	6		1	1	7		
Bet. 75 and 79 yrs.	3	3			1	4		2		1		
Bet. 80 and 84 yrs.	2	1			1	2		1	4			
Bet. 85 and 89 yrs.	1	2			2							
Bet. 90 and 94 yrs.		1										
Bet. 95 and 99 yrs.												
Total	22	27	8	5	26	33	7	12	18	20	10	2

BRIGHT'S DISEASE.

Age, Months, Color and Sex, Year 1914.

October.				November.				December.				Total.			
White.		Colored.		White.		Colored.		White.		Colored.		White.		Colored.	
M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
....	....	....	....	1	1	....	....	....	....	....	....	1	1	....	....
....	....	....	....	1	....	....	....	....	....	....	....	1	1	....	....
....	....	....	....	1	....	....	....	....	....	....	....	1	2	1	....
....	....	1	....	....	....	....	....	1	....	....	....	1	....	2	....
....	....	....	....	....	....	....	....	....	....	....	....	....	1	....	....
....	....	....	....	....	....	....	....	1	....	....	....	1	1	....	....
....	....	....	....	....	....	....	1	....	....	....	....	1	....	....	1
....	....	....	....	....	....	....	....	1	....	....	....	4	1	....	....
....	....	....	....	....	....	....	....	....	....	....	....	2	....	1	....
....	....	....	....	1	....	1	....	....	....	....	1	5	4	2	2
1	1	....	....	....	....	....	1	2	1	1	1	6	3	4	4
....	....	....	....	....	2	....	....	....	1	....	....	2	5	2	1
....	2	....	2	1	....	1	....	....	1	....	....	6	11	5	5
1	2	....	....	....	3	2	....	1	1	....	....	19	15	11	6
....	....	1	....	2	....	3	2	3	3	....	1	22	26	13	14
3	2	....	....	2	....	1	4	3	5	1	1	29	28	8	11
6	3	1	2	4	2	1	....	3	1	2	2	43	25	14	9
2	....	1	....	1	1	....	1	4	3	....	1	32	30	11	8
1	7	....	....	1	6	1	....	8	3	1	2	38	43	12	6
4	2	1	....	5	4	1	....	4	6	1	....	49	45	8	5
1	1	....	....	3	2	1	....	6	3	1	1	40	43	5	5
1	1	....	....	....	5	....	....	2	6	1	....	22	36	2	2
1	....	....	....	1	2	....	1	1	1	....	1	17	14	....	7
1	....	....	....	....	....	....	....	....	1	....	....	7	9	....	....
....	....	....	....	....	1	....	....	1	....	....	....	1	3	....	....
....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
22	21	5	4	24	29	12	10	41	36	8	11	350	347	101	86

BRIGHT'S DISEASE.

TABLE No. 3—*Showing Deaths by Occupation and Social Condition, Year* 1914.

Attorneys	1	Farm laborer	1
Agents (commission)	1	Firemen (stationary engine)	1
Brewers	1	Firemen (Fire Department)	1
Bakers	5	Foundry workers	1
Barbers	4	Florists	1
Bartenders	2	Grocers	1
Boarding-house keepers	2	Gold and silversmiths	1
Brokers (commercial)	1	Glassblowers	1
Butchers	5	Government employees	1
Builders and contractors	3	Hatters	1
Brassworkers	2	Housewives	193
Bricklayers	2	Hucksters	2
Boxmakers	2	Ice dealers	1
Bookkeepers, clerks	19	Inspectors	1
Boat captains	1	Ironworkers	2
Carpenters	18	Jobbers	2
Candymakers	1	Janitors	3
Chambermaids	2	Jewelers (dealers)	2
Chefs	1	Junk dealers	1
Coal dealers	2	Laborers	82
Confectioners	1	Launderers or laundresses	13
Cattle dealers	1	Laundry work (steam)	2
Cabinetmakers	2	Lamplighters	1
Collectors	1	Lawyers	1
Coachmen	2	Liquor dealers	1
Canmakers	4	Machinists	6
Cigarmakers	5	Manufacturers	2
Cooks	8	Machine manufacturers	1
Conductor (not specified)	1	Moulders	4
Coppersmiths	1	Merchants	10
Coopers	1	Managers	2
Drivers	13	Midwives	1
Dressmakers and seamstresses	5	Millers	1
Druggists	1	Mill hands	1
Dentists	1	Mariners	3
Doctors	1	Ministers	2
Domestics	50	Musicians	1
Enamel workers	1	Organmakers	1
Electrical workers	1	Oyster shuckers	1
Engineers (marine)	1	Painters	1
Engineers (civil)	1	Plasterers	3
Engineers (stationary engine)	3	Preachers	2
Elevator boys	1	Packers	1
Foremen	7	Pavers	1
Furniture movers	1	Paperhangers	1
Factory hands	2	Physicians	6
Farmers	3	Plumbers	2

BRIGHT'S DISEASE.

TABLE No. 3 (Continued)—*Showing Deaths by Occupation and Social Condition, Year* 1914.

Policemen and watchmen	7	Storekeepers	3
Produce dealers	3	Servants	6
Porters	4	Superintendents	1
Printers and engravers	2	Steamfitters	1
Religieuse	1	Stewards	1
Roofers	2	Stewardesses	1
Restaurant keepers	1	Stevedores	2
Saloonkeepers	3	School children	6
Salesmen	9	Tailors or tailoresses	6
Saleswomen	2	Tanners	1
Seamen	3	Teamsters	1
Steam railway employees	8	Teachers	5
Street railway employees	1	Tinners	4
Shirt factory hands	1	Upholsterers	1
Shoemakers	7	Waiters	3
Straw hat factory	1	Weavers	1
Sextons	1	Woodworkers	1
Ship carpenters	1	No occupation	219

Social Condition.

Unknown	4	Widows	178
Divorced	3	Widowers	93
Married	437		
Single	169	Total	884

TYPHOID FEVER.

TABLE No. 1—*Showing Deaths by Wards, Color, Sex*

WARDS.	January.				February.			
	White.		Colored.		White.		Colored.	
	M.	F.	M.	F.	M.	F.	M.	F.
First								
Second	1							
Third								
Fourth								
Fifth								
Sixth					1			
Seventh	1	1						
Eighth								
Ninth								
Tenth								
Eleventh			1				1	
Twelfth		1		1				
Thirteenth								
Fourteenth					1			1
Fifteenth						1		
Sixteenth								
Seventeenth	1						1	
Eighteenth								
Nineteenth								
Twentieth		1						
Twenty-first	1							
Twenty-second								
Twenty-third								
Twenty-fourth								
Bay View								
Sydenham								
Total	4	3	1	1	2	1	2	1

TYPHOID FEVER.

and Calendar Months (Residents Only), Year 1914.

March.				April.				May.				June.			
White.		Colored.		White.		Colored.		White.		Colored.		White.		Colored.	
M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
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....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
I	2	....	....	2	2	....	....	I	2	....	....	5	4	2	2

Continued on next page.

TYPHOID FEVER.

TABLE No. 1 (Continued)—*Showing Deaths by Wards, Color,*

WARDS.	July.				August.				September.			
	White.		Colored.		White.		Colored.		White.		Colored.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
First					1				1	1		
Second						1			1			
Third												
Fourth										1		
Fifth							1					
Sixth									1			
Seventh			1									
Eighth												
Ninth					1							
Tenth		1										
Eleventh												1
Twelfth					2							1
Thirteenth									1			
Fourteenth		1										
Fifteenth									2	1		
Sixteenth		1				1						
Seventeenth							1					
Eighteenth									1			
Nineteenth					1							
Twentieth										1		
Twenty-first	1									1		
Twenty-second									1			
Twenty-third												
Twenty-fourth	1									1		
Bay View												
Sydenham												
Total	2	3	1		5	2	1	1	8	6		2

TYPHOID FEVER.

Sex and Calendar Months (Residents Only), Year 1914.

October.				November.				December.				Total.			
White.		Colored.		White.		Colored.		White.		Colored.		White.		Colored.	
M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
....	....	....	....	....	....	....	....	1	....	....	....	4	1	....	....
....	....	....	....	....	....	....	....	....	....	....	....	2	2	....	....
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1	....	....	....	....	....	....	....	....	....	....	....	1	2	....	....
....	....	....	....	....	....	....	....	....	....	....	....	....	....	1	1
....	....	....	....	3	3	....	....	1	....	....	....	8	4	....	....
....	1	....	....	....	3	....	....	....	....	....	....	1	5	1	....
....	2	....	....	....	2	....	....	1	....	....	1	1	5	....	1
....	....	....	....	....	....	....	....	....	1	....	....	1	1	....	....
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....	....	....	1	....	....	....	....	1	....	....	....	1	1	3	2
....	1	....	....	....	....	....	....	1	....	....	....	4	3	....	3
1	....	....	....	....	....	....	....	1	....	....	....	3	1	....	....
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....	....	1	....	....	....	....	....	....	....	....	....	2	2	2	....
....	....	....	....	....	....	....	....	....	....	....	....	2	3	....	....
....	....	....	....	....	....	....	....	....	....	....	....	1	....	1	1
1	....	....	....	....	....	....	....	....	....	....	....	3	....	....	....
1	1	....	....	....	....	....	....	....	....	....	....	2	1	....	....
1	1	....	....	....	....	....	....	....	....	....	....	2	4	....	....
1	1	....	....	....	1	....	....	....	....	....	....	3	3	....	....
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....	2	....	....	....	....	....	....	1	....	....	....	1	2	....	....
....	....	....	....	3	1	....	....	....	1	....	....	5	3	....	....
1	....	....	....	....	....	....	....	....	....	....	....	1	....	....	....
....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
7	9	2	1	6	10	....	....	7	2	....	1	50	46	9	9

TYPHOID FEVER.

TABLE No. 2—*Showing Deaths by Age, Sex, Color*

AGES.	January.				February.			
	White.		Colored.		White.		Colored.	
	M.	F.	M.	F.	M.	F.	M.	F.
Under 1 month								
Bet. 1 and 3 mos								
Bet. 3 and 12 mos								
Bet. 1 and 2 yrs								
Bet. 2 and 3 yrs								
Bet. 3 and 4 yrs								
Bet. 4 and 5 yrs								
Bet. 5 and 9 yrs		1						
Bet. 10 and 14 yrs								
Bet. 15 and 19 yrs	1						1	
Bet. 20 and 24 yrs	2	2						1
Bet. 25 and 29 yrs	1			1	1		1	
Bet. 30 and 34 yrs			1					
Bet. 35 and 39 yrs								
Bet. 40 and 44 yrs						1		
Bet. 45 and 49 yrs								
Bet. 50 and 54 yrs								
Bet. 55 and 59 yrs								
Bet. 60 and 64 yrs								
Bet. 65 and 69 yrs					1			
Bet. 70 and 74 yrs								
Bet. 75 and 79 yrs								
Bet. 80 and 84 yrs								
Bet. 85 and 89 yrs								
Bet. 90 and 94 yrs								
Bet. 95 and 99 yrs								
Total	4	3	1	1	2	1	2	1

TYPHOID FEVER.

and Calendar Months (Residents Only), Year 1914.

March.				April.				May.				June.			
White.		Colored.		White.		Colored.		White.		Colored.		White.		Colored.	
M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
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....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
I	2	....	....	2	2	....	....	I	2	....	....	5	4	2	2

Continued on next page.

TYPHOID FEVER.

TABLE No. 2 (Continued)—*Showing Deaths by Age, Sex,*

AGES.	July.				August.				September.			
	White.		Colored.		White.		Colored.		White.		Colored.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Under 1 month....	....	....	....	....	....	....	....	....	....	....	....	....
Bet. 1 and 3 mos..	....	....	....	....	....	....	....	....	....	....	....	....
Bet. 3 and 12 mos..	....	....	....	....	....	....	....	....	....	....	....	....
Bet. 1 and 2 yrs..	....	....	....	....	....	....	....	....	1	....	....	....
Bet. 2 and 3 yrs..	....	....	....	....	....	1	....	....	....	....	....	....
Bet. 3 and 4 yrs..	....	....	....	....	....	....	....	....	1	....	....	....
Bet. 4 and 5 yrs..	....	....	....	....	....	....	....	....	....	....	....	....
Bet. 5 and 9 yrs..	....	....	....	....	....	....	....	....	1	....	....	....
Bet. 10 and 14 yrs..	....	....	....	....	....	....	....	....	....	1	....	....
Bet. 15 and 19 yrs..	....	....	....	....	....	....	....	....	....	1	....	1
Bet. 20 and 24 yrs..	....	....	....	....	1	....	1	1	....	2	....	1
Bet. 25 and 29 yrs..	....	1	1	....	....	....	....	....	1	....	....	....
Bet. 30 and 34 yrs..	1	1	....	....	1	....	....	....	....	....	....	....
Bet. 35 and 39 yrs..	1	....	....	....	....	....	....	....	1	1	....	....
Bet. 40 and 44 yrs..	....	....	....	....	1	....	....	....	2	....	....	....
Bet. 45 and 49 yrs..	....	....	....	....	2	....	....	....	....	....	....	....
Bet. 50 and 54 yrs..	....	....	....	....	....	....	....	....	....	....	....	....
Bet. 55 and 59 yrs..	....	....	....	....	....	....	....	....	....	1	....	....
Bet. 60 and 64 yrs..	....	....	....	....	....	1	....	....	....	....	....	....
Bet. 65 and 69 yrs..	....	....	....	....	....	....	....	....	....	....	....	....
Bet. 70 and 74 yrs..	....	1	....	....	....	....	....	....	1	....	....	....
Bet. 75 and 79 yrs..	....	....	....	....	....	....	....	....	....	....	....	....
Bet. 80 and 84 yrs..	....	....	....	....	....	....	....	....	....	....	....	....
Bet. 85 and 89 yrs..	....	....	....	....	....	....	....	....	....	....	....	....
Bet. 90 and 94 yrs..	....	....	....	....	....	....	....	....	....	....	....	....
Bet. 95 and 99 yrs..	....	....	....	....	....	....	....	....	....	....	....	....
Total.....	2	3	1	....	5	2	1	1	8	6	....	2

TYPHOID FEVER.

Color and Calendar Months, (Residents Only), Year 1914.

October.				November.				December.				Total.			
White.		Colored.		White.		Colored.		White.		Colored.		White.		Colored.	
M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
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I	....	....	....	....	I	....	....	....	....	....	....	4	2	....	....
....	I	....	....	....	I	....	....	....	....	....	....	I	3	....	I
I	....	....	....	....	I	....	....	....	....	....	I	2	3	I	3
I	I	I	....	I	I	....	....	2	I	....	....	7	7	3	3
....	I	....	....	I	2	....	....	2	....	....	....	7	6	2	I
....	....	I	....	....	I	....	....	....	....	....	....	3	4	2	....
....	3	....	....	I	....	....	....	I	....	....	....	5	4	I	....
....	....	....	I	I	I	....	....	2	....	....	....	7	2	....	I
I	I	....	....	....	I	....	....	....	....	....	....	4	2	....	....
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....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
7	9	2	I	6	10	....	....	7	2	....	I	50	46	9	9

TYPHOID FEVER.

TABLE No. 3—*Showing Deaths by Occupation and Social Condition (Residents Only), Year* 1914.

Agents (insurance)	1	Laborers	11
Bakers	2	Moulders	1
Barbers	1	Merchants	2
Builders and contractors	1	Nurses	1
Bricklayers	1	Painters	1
Blacksmiths	1	Physicians	1
Boxmakers	1	Policemen and watchmen	1
Bookkeepers, clerks	3	Porters	1
Carpenters	2	Salesmen	1
Chauffeurs	1	Saleswomen	3
Collectors	1	Seamen	1
Drivers	1	Street railway employees	1
Dressmakers and seamstresses	3	Servants	1
Domestics	7	Stenographers	1
Firemen (stationary engine)	1	School children	8
Glassblowers	1	Teachers	1
Hatters	1	Tinners	1
Housewives	22	Telegraph operators	1
Hostlers	1	Waiters	1
Ironworkers	1	No occupation	22

Social Condition.

Married	52	Widowers	2
Single	55	Divorced	1
Widows	4		
		Total	114

SCARLET FEVER.

TABLE No. 1—*Showing Deaths by Wards,*

WARDS.	January.				Februarv.			
	White.		Colored.		White.		Colored.	
	M.	F.	M.	F.	M.	F.	M.	F.
First	....	2	....	....	....	....	....	....
Second	....	1	....	....	....	....	....	....
Third	....	....	....	....	....	....	....	....
Fourth	....	....	....	....	....	....	....	....
Fifth	....	....	....	....	....	1	....	....
Sixth	*1	....	....	....	1	....	....	....
Seventh	....	....	....	....	....	....	....	....
Eighth	....	....	....	....	....	....	....	....
Ninth	....	....	....	....	....	....	....	....
Tenth	....	....	....	....	....	....	....	....
Eleventh	....	....	....	....	....	....	....	....
Twelfth	....	....	....	....	....	1	....	....
Thirteenth	....	....	....	....	....	....	....	....
Fourteenth	....	....	....	....	....	1	....	....
Fifteenth	....	....	....	....	....	....	....	....
Sixteenth	....	....	....	....	....	....	....	....
Seventeenth	....	....	....	....	....	....	....	....
Eighteenth	....	....	....	....	....	....	....	....
Nineteenth	....	....	....	....	....	....	....	....
Twentieth	....	....	....	....	....	....	....	....
Twenty-first	....	....	....	....	....	....	....	....
Twenty-second	....	....	....	....	....	....	....	....
Twenty-third	....	....	....	....	....	....	....	....
Twenty-fourth	....	....	....	....	....	1	....	....
Bay View	....	....	....	....	....	....	....	....
Sydenham	....	....	....	....	....	....	....	....
Total	1	3	....	....	1	4	....	....

*Died in Sydenham.

SCARLET FEVER.

Months, Color and Sex, Year 1914.

March.				April.				May.				June.			
White.		Colored.		White.		Colored.		White.		Colored.		White.		Colored.	
M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
....	....	....	....	....	....	....	....	....	....	....	....	I	....	....	....
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....	....	....	I	....	....	....	....	....	....	....	....	....	....	....	....
2	*I	I	....	....	....	....	....	....	....	....	....	....	....	....	....
....	....	I	....	....	....	....	....	....	....	....	....	....	....	....	....
*I	....	....	....	I	....	....	....	....	....	....	....	....	....	....	....
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I	*I	....	....	....	....	....	....	....	....	....	....	....	....	....	....
....	....	....	....	I	....	....	....	....	....	....	....	....	....	....	....
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*I	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
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....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
I	....	....	....	....	....	....	....	....	....	....	....	....	....	....	I
....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
I	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
7	2	2	I	2	....	....	....	....	I	....	....	I	....	....	I

Continued on next page.

SCARLET FEVER.

TABLE No. 1 (Continued)—*Showing Deaths by*

WARDS.	July.				August.				September.			
	White.		Colored.		White.		Colored.		White.		Colored.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
First												
Second						1						
Third												
Fourth												
Fifth												
Sixth												
Seventh												
Eighth												
Ninth												
Tenth												
Eleventh												
Twelfth												
Thirteenth												
Fourteenth												
Fifteenth							1	1				
Sixteenth												
Seventeenth												
Eighteenth												
Nineteenth												
Twentieth												
Twenty-first				1								
Twenty-second												
Twenty-third												
Twenty-fourth												
Bay View												
Sydenham												
Total				1		1	1	1				

SCARLET FEVER.

Wards, Months, Color and Sex, Year 1914.

October.				November.				December.				Total.			
White.		Colored.		White.		Colored.		White.		Colored.		White.		Colored.	
M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
....	....	....	....	....	*1	....	....	*1	....	....	....	2	3	....	....
....	....	....	....	....	....	....	....	....	....	....	....	....	3	....	....
....	....	....	....	....	*1	....	....	....	....	....	....	....	1	....	....
....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
....	....	....	....	....	....	....	....	....	....	....	....	....	1	....	1
....	....	....	....	....	....	....	....	....	....	....	....	4	1	1	....
....	....	....	....	....	....	....	....	....	....	....	....	....	....	1	....
....	....	....	....	....	....	....	....	....	....	....	....	2	....	....	....
....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
....	....	....	....	....	....	....	....	....	....	....	....	....	1	....	....
....	....	....	....	....	....	....	....	....	....	....	....	1	1	....	....
....	1	....	....	....	....	....	....	....	....	....	....	1	2	....	....
....	....	....	....	....	....	....	....	....	....	....	....	....	....	1	1
....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
....	....	....	....	....	....	....	....	....	....	....	....	1	....	....	....
....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1
1	....	....	....	....	....	....	....	....	....	....	....	2	....	....	1
....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
....	....	....	....	....	....	....	....	....	....	....	....	1	1	....	....
....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
1	1	....	....	....	2	....	....	1	....	....	....	14	14	3	4

*Died in Sydenham.

SCARLET FEVER.

TABLE NO. 2—*Showing Deaths by Age,*

AGES.	January.				February.			
	White.		Colored.		White.		Colored.	
	M.	F.	M.	F.	M.	F.	M.	F.
Under 1 month	....	....	....	....	....	....	....	....
Bet. 1 and 3 mos	....	....	....	....	....	....	....	....
Bet. 3 and 12 mos	....	....	....	....	....	....	....	....
Bet. 1 and 2 yrs	....	....	....	....	....	1	....	....
Bet. 2 and 3 yrs	1	....	....	....	....	....	....	....
Bet. 3 and 4 yrs	....	....	....	....	....	....	....	....
Bet. 4 and 5 yrs	....	....	....	....	1	....	....	....
Bet. 5 and 9 yrs	....	1	....	....	....	2	....	....
Bet. 10 and 14 yrs	....	2	....	....	....	....	....	....
Bet. 15 and 19 yrs	....	....	....	....	....	....	....	....
Bet. 20 and 24 yrs	....	....	....	....	....	....	....	....
Bet. 25 and 29 yrs	....	....	....	....	....	....	....	....
Bet. 30 and 34 yrs	....	....	....	....	....	....	....	....
Bet. 35 and 39 yrs	....	....	....	....	....	....	....	....
Bet. 40 and 44 yrs	....	....	....	....	....	....	....	....
Bet. 45 and 49 yrs	....	....	....	....	....	1	....	....
Bet. 50 and 54 yrs	....	....	....	....	....	....	....	....
Bet. 55 and 59 yrs	....	....	....	....	....	....	....	....
Bet. 60 and 64 yrs	....	....	....	....	....	....	....	....
Bet. 65 and 69 yrs	....	....	....	....	....	....	....	....
Bet. 70 and 74 yrs	....	....	....	....	....	....	....	....
Bet. 75 and 79 yrs	....	....	....	....	....	....	....	....
Bet. 80 and 84 yrs	....	....	....	....	....	....	....	....
Bet. 85 and 89 yrs	....	....	....	....	....	....	....	....
Bet. 90 and 94 yrs	....	....	....	....	....	....	....	....
Bet. 95 and 99 yrs	....	....	....	....	....	....	....	....
Total	1	3	....	....	1	4	....	....

SCARLET FEVER.

Months, Color and Sex, Year 1914.

March.				April.				May.				June.			
White.		Colored.		White.		Colored.		White.		Colored.		White.		Colored.	
M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
2			1												
2															
2	1			2					1			1			
1	1	2													
															1
7	2	2	1	2					1			1			1

Continued on next page.

SCARLET FEVER.

TABLE No. 2 (Continued)—*Showing Deaths*

AGES.	July.				August.				September.			
	White.		Colored.		White.		Colored.		White.		Colored.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Under 1 month												
Bet. 1 and 3 mos.												
Bet. 3 and 12 mos.												
Bet. 1 and 2 yrs.												
Bet. 2 and 3 yrs.												
Bet. 3 and 4 yrs.							1					
Bet. 4 and 5 yrs.				1								
Bet. 5 and 9 yrs.						1		1				
Bet. 10 and 14 yrs.												
Bet. 15 and 19 yrs.												
Bet. 20 and 24 yrs.												
Bet. 25 and 29 yrs.												
Bet. 30 and 34 yrs.												
Bet. 35 and 39 yrs.												
Bet. 40 and 44 yrs.												
Bet. 45 and 49 yrs.												
Bet. 50 and 54 yrs.												
Bet. 55 and 59 yrs.												
Bet. 60 and 64 yrs.												
Bet. 65 and 69 yrs.												
Bet. 70 and 74 yrs.												
Bet. 75 and 79 yrs.												
Bet. 80 and 84 yrs.												
Bet. 85 and 89 yrs.												
Bet. 90 and 94 yrs.												
Bet. 95 and 99 yrs.												
Total				1		1	1	1				

SCARLET FEVER.

by Age, Months, Color and Sex, Year 1914.

October.				November.				December.				Total.			
White.		Colored.		White.		Colored.		White.		Colored.		White.		Colored	
M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
1					1							1	1		
												2	1		1
					1							3	1		
												5	2	1	
												1			1
								1				2	5	2	1
	1												3		
															1
													1		
1	1				2			1				14	14	3	4

DIPHTHERIA.

TABLE No. 1—*Showing Deaths by Wards,*

WARDS.	January.				February.			
	White.		Colored.		White.		Colored.	
	M.	F.	M.	F.	M.	F.	M.	F.
First	1	....	....	....	....	....	....	....
Second	....	....	....	....	....	....	....	....
Third	1	*1	....	....	....	....	....	....
Fourth	1	....	....	....	....	....	....	....
Fifth	....	....	....	....	....	....	....	....
Sixth	....	....	....	....	....	....	....	....
Seventh	2	1	....	....	....	1	....	....
Eighth	....	....	....	....	....	....	....	....
Ninth	1	1	....	....	....	....	....	....
Tenth	*1	....	....	....	....	....	....	....
Eleventh	....	....	....	....	....	....	....	....
Twelfth	....	....	....	....	....	....	....	....
Thirteenth	....	....	....	....	....	....	....	....
Fourteenth	1	....	....	....	....	....	....	....
Fifteenth	....	....	....	....	1	....	....	....
Sixteenth	....	....	....	....	....	....	....	....
Seventeenth	....	....	....	....	....	....	....	....
Eighteenth	....	....	....	....	....	....	....	....
Nineteenth	....	....	....	....	....	....	....	....
Twentieth	2	....	....	....	....	2	....	....
Twenty-first	....	....	....	....	....	....	....	....
Twenty-second	....	1	....	....	....	....	....	....
Twenty-third	1	....	....	....	....	....	....	....
Twenty-fourth	1	....	....	....	....	....	....	....
Bay View	....	....	....	....	....	....	....	....
Sydenham	....	....	....	....	....	....	....	....
Total	12	4	....	....	1	3	....	....

*Died in Sydenham.

DIPHTHERIA.

Months, Color and Sex, Year 1914.

March.				April.				May.				June.			
White.		Colored.		White.		Colored.		White.		Colored.		White.		Colored.	
M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
....	....	....	....	....	....	....	....	1	....	....	....	....	....	....	....
....	1	....	....	1	....	....	....	....	....	....	....	....	....	....	....
....	....	....	....	....	....	....	....	1	....	....	....	....	....	....	....
....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
....	1	....	....	....	....	....	....	....	....	....	1	1	....	....	....
....	....	....	....	....	....	....	....	*1	....	....	....	....	....	....	....
....	....	....	....	....	....	....	....	1	....	....	....	....	....	....	....
....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
....	....	....	....	1	....	....	....	....	....	....	....	....	....	....	....
....	....	....	....	*1	....	....	....	....	....	....	....	....	....	....	....
....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
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....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
....	....	....	....	1	1	....	....	....	1	....	....	....	....	....	....
....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
....	....	....	....	....	....	....	....	....	....	1	....	....	....	....	....
....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
....	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....
....	....	1	....	....	....	....	....	....	....	....	....	....	....	....	....
....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
....	1	....	1	....	....	....	....	....	....	....	....	....	....	....	....
....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
....	4	1	1	4	1	....	....	4	1	1	1	1	....	....	....

Continued on next page.

DIPHTHERIA.

TABLE No. 1 (Continued)—*Showing Deaths by*

WARDS.	July.				August.				September.			
	White.		Colored.		White.		Colored.		White.		Colored.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
First												
Second		1										
Third		1										
Fourth					1							
Fifth												
Sixth					1							
Seventh												
Eighth												
Ninth												
Tenth												
Eleventh												
Twelfth												
Thirteenth					2							
Fourteenth									1			1
Fifteenth												1
Sixteenth						1						
Seventeenth												
Eighteenth										1		
Nineteenth										1		
Twentieth												
Twenty-first												
Twenty-second												
Twenty-third									1			
Twenty-fourth					1	2						
Bay View												
Sydenham												
Total		2			5	3			2	2		2

DIPHTHERIA.

Wards, Months, Color and Sex, Year 1914.

October.				November.				December.				Total.			
White.		Colored.		White.		Colored.		White.		Colored.		White.		Colored.	
M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
....	....	....	....	2	....	....	....	....	....	....	....	4	....	....	....
....	....	....	....	....	....	....	....	....	....	....	....	1	2	....	....
....	....	....	....	....	....	....	....	....	....	....	....	2	2	....	....
....	....	....	....	....	1	....	....	1	....	....	....	3	1	....	....
....	....	....	....	....	1	....	....	....	....	....	....	1	2	....	1
....	....	....	....	....	....	....	....	....	1	1	....	2	1	1	....
1	....	....	....	1	....	....	....	....	....	....	....	5	2	....	....
....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
....	....	....	....	....	....	....	....	....	1	....	....	2	2	....	....
....	....	....	....	....	1	....	....	....	....	....	....	2	1	....	....
....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
....	1	....	....	....	....	....	....	....	....	....	....	....	1	....	....
....	2	....	....	....	2	....	....	....	....	....	....	2	4	....	....
....	....	....	....	....	....	....	....	....	....	....	....	3	2	....	1
1	....	....	....	2	....	1	1	....	1	....	....	4	1	1	2
....	....	....	....	....	....	....	....	....	....	....	....	....	1	....	....
....	....	....	....	....	....	....	....	....	....	....	....	....	....	1	....
....	....	....	....	1	....	....	....	1	....	....	....	2	1	....	....
....	....	....	....	....	1	....	....	....	....	....	....	....	2	....	....
....	....	....	....	1	....	....	....	....	1	....	....	3	4	....	....
....	....	....	....	1	....	....	....	....	....	....	....	1	....	1	....
....	....	....	....	....	....	....	....	....	....	....	....	....	1	....	....
....	1	....	....	....	1	....	....	....	1	....	....	2	3	....	....
....	....	....	....	....	....	....	....	....	1	....	....	2	4	....	1
....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
2	4	....	....	8	7	1	1	2	6	1	....	41	37	4	5

DIPHTHERIA.

TABLE NO. 2—*Showing Deaths by Age,*

AGES.	January.				February.			
	White.		Colored.		White.		Colored.	
	M.	F.	M.	F.	M.	F.	M.	F.
Under 1 month	....	....	....	....	....	....	....	....
Bet. 1 and 3 mos	....	....	....	....	....	....	....	....
Bet. 3 and 12 mos	....	....	....	....	....	....	....	....
Bet. 1 and 2 yrs	2	2	....	....	....	....	....	....
Bet. 2 and 3 yrs	1	1	....	....	....	2	....	....
Bet. 3 and 4 yrs	2	1	....	....	....	....	....	....
Bet. 4 and 5 yrs	....	....	....	....	1	....	....	....
Bet. 5 and 9 yrs	4	....	....	....	....	....	....	....
Bet. 10 and 14 yrs	1	....	....	....	....	....	....	....
Bet. 15 and 19 yrs	....	....	....	....	....	....	....	....
Bet. 20 and 24 yrs	....	....	....	....	....	....	....	....
Bet. 25 and 29 yrs	....	....	....	....	....	....	....	....
Bet. 30 and 34 yrs	....	....	....	....	....	....	....	....
Bet. 35 and 39 yrs	1	....	....	....	....	....	....	....
Bet. 40 and 44 yrs	1	....	....	....	....	....	....	....
Bet. 45 and 49 yrs	....	....	....	....	....	1	....	....
Bet. 50 and 54 yrs	....	....	....	....	....	....	....	....
Bet. 55 and 59 yrs	....	....	....	....	....	....	....	....
Bet. 60 and 64 yrs	....	....	....	....	....	....	....	....
Bet. 65 and 69 yrs	....	....	....	....	....	....	....	....
Bet. 70 and 74 yrs	....	....	....	....	....	....	....	....
Bet. 75 and 79 yrs	....	....	....	....	....	....	....	....
Bet. 80 and 84 yrs	....	....	....	....	....	....	....	....
Bet. 85 and 89 yrs	....	....	....	....	....	....	....	....
Bet. 90 and 94 yrs	....	....	....	....	....	....	....	....
Bet. 95 and 99 yrs	....	....	....	....	....	....	....	....
Total	12	4	....	....	1	3	....	....

DIPHTHERIA.

Months, Color and Sex, Year 1914.

March.				April.				May.				June.			
White.		Colored.		White.		Colored.		White.		Colored.		White.		Colored.	
M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
....	....	....	....	....	1	....	....	....	....	....	....	....	....	....	....
....	....	....	....	....	....	....	....	1	....	....	....	....	....	....	....
....	1	....	....	1	....	....	....	1	1	....	....	....	....	....	....
....	....	1	....	1	....	....	....	....	....	....	....	1	....	....	....
....	3	....	....	2	....	....	....	1	....	....	1	....	....	....	....
....	....	....	1	....	....	....	....	....	....	....	....	....	....	....	....
....	....	....	....	....	....	....	....	1	....	....	....	....	....	....	....
....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
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....	4	1	1	4	1	....	....	4	1	1	1	1	....	....	....

Continued on next page.

DIPHTHERIA.

TABLE No. 2 (Continued)—*Showing Deaths*

AGES.	July.				August.				September.			
	White.		Colored.		White.		Colored.		White.		Colored.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Under 1 month												
Bet. 1 and 3 mos.												
Bet. 3 and 12 mos.					1	1						
Bet. 1 and 2 yrs.		1			2					1		
Bet. 2 and 3 yrs.		1				1			2	1		
Bet. 3 and 4 yrs.						1						1
Bet. 4 and 5 yrs.					1							
Bet. 5 and 9 yrs.					1							
Bet. 10 and 14 yrs.												
Bet. 15 and 19 yrs.												
Bet. 20 and 24 yrs.												
Bet. 25 and 29 yrs.												1
Bet. 30 and 34 yrs.												
Bet. 35 and 39 yrs.												
Bet. 40 and 44 yrs.												
Bet. 45 and 49 yrs.												
Bet. 50 and 54 yrs.												
Bet. 55 and 59 yrs.												
Bet. 60 and 64 yrs.												
Bet. 65 and 69 yrs.												
Bet. 70 and 74 yrs.												
Bet. 75 and 79 yrs.												
Bet. 80 and 84 yrs.												
Bet. 85 and 89 yrs.												
Bet. 90 and 94 yrs.												
Bet. 95 and 99 yrs.												
Total		2			5	3			2	2		2

DIPHTHERIA.

by Age, Months, Color and Sex, Year 1914.

October.				November.				December.				Total.			
White.		Colored.		Wnite.		Colored.		White.		Colored.		White.		Colored.	
M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
....	....	....	....	....	....	....	....	....	1	....	....	....	2	....	....
....	....	....	....	....	1	....	....	....	....	....	....	1	1	....	....
....	....	....	....	....	....	....	....	....	....	....	....	3	3	....	....
1	1	....	....	....	....	....	....	1	2	1	....	8	7	2	....
1	1	....	....	2	1	1	....	....	....	....	....	7	11	1	1
....	....	....	....	1	....	....	....	....	....	....	....	5	2	1	1
....	....	....	....	2	2	....	....	1	1	....	....	5	3	....	1
....	2	....	....	2	2	....	1	....	2	....	....	8	6	....	1
....	....	....	....	....	....	....	....	....	....	....	....	1	....	....	....
....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
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....	....	....	....	1	....	....	....	....	....	....	....	2	....	....	....
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2	4	....	....	8	7	1	1	2	6	1	....	41	37	4	5

WHOOPING COUGH.

TABLE No. 1—*Showing Deaths by Wards,*

WARDS.	January.				February.			
	White.		Colored.		White.		Colored.	
	M.	F.	M.	F.	M.	F.	M.	F.
First								
Second								
Third								
Fourth				2				
Fifth								
Sixth								
Seventh								
Eighth	1				1	1		
Ninth								
Tenth								
Eleventh								
Twelfth		1						
Thirteenth								
Fourteenth								
Fifteenth								
Sixteenth								
Seventeenth								
Eighteenth			1					1
Nineteenth		1					1	
Twentieth								
Twenty-first								
Twenty-second								
Twenty-third						1		
Twenty-fourth								
Bay View								
Sydenham								
Total	1	2	1	2	1	2	1	1

WHOOPING COUGH.

Months, Color and Sex, Year 1914.

March.				April.				May.				June.			
White.		Colored.		White.		Colored.		White.		Colored.		White.		Colored.	
M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
....	....	....	....	....	....	....	....	1	....	....	....	1	....	....	....
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....	....	....	....	....	....	1	....	....	....	....	....	....	....	....	....
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....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1
....	....	....	....	....	....	....	....	....	....	....	....	1	....	....	....
....	....	....	....	....	1	....	....	....	....	....	....	....	....	....	....
....	....	....	....	....	....	....	....	1	....	....	....	1	1	....	....
....	....	....	....	....	....	....	1	....	....	....	1	1	....	....	....
....	....	....	....	....	....	....	1	1	....	....	....	....	....	1	....
....	....	....	....	....	....	....	....	....	....	....	....	....	1	1	....
....	1	....	....	....	....	....	....	....	1	....	....	....	....	....	....
....	....	....	1	....	....	....	....	....	....	....	....	....	....	....	....
....	....	....	....	1	....	....	....	....	....	....	....	1	1	....	....
....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
....	....	....	....	....	....	1	....	....	....	....	2	....	....	....	....
....	....	1	....	....	....	....	....	1	1	1	....	....	....	....	....
....	1	....	....	....	....	....	....	....	....	....	....	....	....	1	....
....	....	....	....	....	1	....	....	....	1	....	....	....	....	....	....
....	....	....	....	....	1	....	....	1	....	....	....	....	....	1	....
....	....	....	....	....	....	....	....	....	....	....	....	1	....	....	....
....	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....
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....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
....	3	1	1	1	3	2	3	5	3	1	3	6	3	4	2

Continued on next page

WHOOPING COUGH.

TABLE No. 1 (Continued)—*Showing Deaths by*

WARDS.	July.				August.				September.			
	White.		Colored.		White.		Colored.		White.		Colored.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
First	1					1						
Second												
Third												
Fourth												
Fifth		1		1								
Sixth		1									1	
Seventh												
Eighth	1		1									
Ninth												
Tenth									1			
Eleventh												
Twelfth		2		1								
Thirteenth												1
Fourteenth			2									
Fifteenth				1			1					
Sixteenth						1		3				
Seventeenth			1	1								
Eighteenth												
Nineteenth												
Twentieth			1									
Twenty-first			1	1		1		1				
Twenty-second		1										
Twenty-third												
Twenty-fourth		1										
Bay View												
Sydenham												
Total	2	6	6	5		3	1	4	1		1	1

WHOOPING COUGH.

Wards, Months, Color and Sex, Year 1914.

October.				November.				December.				Total.			
White.		Colored.		White.		Colored.		White.		Colored.		White.		Colored.	
M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
....	....	....	....	....	....	....	....	....	....	....	....	3	1	....	....
....	....	....	....	....	....	1	....	....	....	....	....	....	....	1	....
....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
....	....	....	....	....	....	....	....	....	....	....	....	....	....	1	2
....	....	....	....	....	....	....	....	....	....	....	....	....	1	....	3
....	....	....	....	....	....	....	....	....	....	....	....	....	1	1	1
....	....	....	....	....	....	....	....	....	....	....	....	1	....	....	....
....	....	....	....	....	....	....	....	....	....	....	....	3	2	1	....
....	....	....	....	....	....	....	....	....	....	....	....	2	1	....	....
....	....	....	....	....	....	....	....	....	....	....	....	2	....	....	2
....	....	....	....	1	....	....	....	....	....	....	....	2	....	1	1
....	....	....	....	....	....	....	....	....	....	....	....	....	4	1	1
....	....	....	....	....	....	....	....	....	....	....	....	....	2	....	1
....	....	....	....	....	....	....	....	....	....	....	....	....	....	2	1
....	....	....	1	....	....	....	1	....	....	....	....	2	1	1	3
....	....	....	....	....	....	....	....	....	....	....	....	....	1	....	3
....	....	....	....	....	....	....	....	....	....	....	....	....	....	2	3
....	....	....	....	....	....	....	....	....	....	....	....	1	1	3	1
....	....	....	....	....	....	....	....	....	....	....	....	....	2	2	....
....	....	....	....	....	....	....	....	....	....	....	....	....	2	1	....
....	....	....	1	....	....	....	....	....	....	....	....	1	2	2	3
....	....	....	....	....	....	....	....	....	....	....	....	1	1	....	....
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....	....	....	2	1	....	1	1	....	....	....	....	18	25	19	25

WHOOPING COUGH.

TABLE No. 2—*Showing Deaths by Age,*

AGES.	January.				February.			
	White.		Colored.		White.		Colored.	
	M.	F.	M.	F.	M.	F.	M.	F.
Under 1 month	....	....	....	....	....	....	....	....
Bet. 1 and 3 mos	....	....	....	....	....	1	....	....
Bet. 3 and 12 mos	1	....	....	1	....	1	1	1
Bet. 1 and 2 yrs	....	1	1	....	1	....	....	....
Bet. 2 and 3 yrs	....	....	....	....	....	....	....	....
Bet. 3 and 4 yrs	....	....	....	1	....	....	....	....
Bet. 4 and 5 yrs	....	1	....	....	....	....	....	....
Bet. 5 and 9 yrs	....	....	....	....	....	....	....	....
Bet. 10 and 14 yrs	....	....	....	....	....	....	....	....
Bet. 15 and 19 yrs	....	....	....	....	....	....	....	....
Bet. 20 and 24 yrs	....	....	....	....	....	....	....	....
Bet. 25 and 29 yrs	....	....	....	....	....	....	....	....
Bet. 30 and 34 yrs	....	....	....	....	....	....	....	....
Bet. 35 and 39 yrs	....	....	....	....	....	....	....	....
Bet. 40 and 44 yrs	....	....	....	....	....	....	....	....
Bet. 45 and 49 yrs	....	....	....	....	....	....	....	....
Bet. 50 and 54 yrs	....	....	....	....	....	....	....	....
Bet. 55 and 59 yrs	....	....	....	....	....	....	....	....
Bet. 60 and 64 yrs	....	....	....	....	....	....	....	....
Bet. 65 and 69 yrs	....	....	....	....	....	....	....	....
Bet. 70 and 74 yrs	....	....	....	....	....	....	....	....
Bet. 75 and 79 yrs	....	....	....	....	....	....	....	....
Bet. 80 and 84 yrs	....	....	....	....	....	....	....	....
Bet. 85 and 89 yrs	....	....	....	....	....	....	....	....
Bet. 90 and 94 yrs	....	....	....	....	....	....	....	....
Bet. 95 and 99 yrs	....	....	....	....	....	....	....	....
Total	1	2	1	2	1	2	1	1

WHOOPING COUGH.

Months, Color and Sex, Year 1914.

March.				April.				May.				June.			
White.		Colored.		White.		Colored.		White.		Colored.		White.		Colored.	
M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
....	....	....	I	....	I	....	....	I	I	....	....	I	I	....	....
....	I	....	....	I	2	I	I	2	2	I	2	3	2	3	2
....	2	I	....	....	....	....	....	2	....	....	....	I	....	I	....
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....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
....	3	I	I	I	3	2	3	5	3	I	3	6	3	4	2

Continued on next page.

WHOOPING COUGH.

TABLE No. 2 (Continued)—*Showing Deaths*

AGES.	July.				August.				September.			
	White.		Colored.		White.		Colored.		White.		Colored.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Under 1 month												
Bet. 1 and 3 mos.				1								
Bet. 3 and 12 mos.	1	3	4	2		2		1				1
Bet. 1 and 2 yrs.	1	3	2	1		1	1	3	1		1	
Bet. 2 and 3 yrs.				1								
Bet. 3 and 4 yrs.												
Bet. 4 and 5 yrs.												
Bet. 5 and 9 yrs.												
Bet. 10 and 14 yrs.												
Bet. 15 and 19 yrs.												
Bet. 20 and 24 yrs.												
Bet. 25 and 29 yrs.												
Bet. 30 and 34 yrs.												
Bet. 35 and 39 yrs.												
Bet. 40 and 44 yrs.												
Bet. 45 and 49 yrs.												
Bet. 50 and 54 yrs.												
Bet. 55 and 59 yrs.												
Bet. 60 and 64 yrs.												
Bet. 65 and 69 yrs.												
Bet. 70 and 74 yrs.												
Bet. 75 and 79 yrs.												
Bet. 80 and 84 yrs.												
Bet. 85 and 89 yrs.												
Bet. 90 and 94 yrs.												
Bet. 95 and 99 yrs.												
Total	2	6	6	5	3	1	4	1		1	1	

WHOOPING COUGH.

by Age, Months, Color and Sex, Year 1914.

October.				November.				December.				Total.			
White.		Colored.		White.		Colored.		White.		Colored.		White.		Colored.	
M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
....	....	....	....	1	....	....	....	....	....	....	...	3	4	....	2
....	....	....	1	....	....	....	1	....	....	....	....	8	13	10	13
....	....	....	....	....	....	....	....	....	....	....	....	6	7	7	4
....	....	....	....	....	....	....	....	....	....	....	....	....	....	1	3
....	....	....	....	....	....	....	....	....	....	....	....	1	....	....	1
....	....	....	1	....	....	....	....	....	....	....	....	....	1	....	2
....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
....	....	....	....	....	....	1	....	....	....	....	....	....	....	1	....
....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
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....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
....	....	....	2	1	....	1	1	....	....	....	....	18	25	19	25

MEASLES.

TABLE No. 1—*Showing Deaths by Wards*

WARDS.	January.				February.			
	White.		Colored.		White.		Colored.	
	M.	F.	M.	F.	M.	F.	M.	F.
First	....	....	....	....	....	....	....	....
Second	....	....	....	....	....	....	....	....
Third	....	....	....	....	....	....	....	....
Fourth	....	....	....	....	....	....	....	....
Fifth	....	....	....	....	....	....	....	....
Sixth	....	....	....	....	....	....	....	....
Seventh	....	....	....	....	....	....	....	....
Eighth	....	....	....	....	....	....	....	....
Ninth	....	....	....	....	....	....	....	....
Tenth	....	....	....	....	....	....	....	....
Eleventh	....	....	....	....	....	....	....	....
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Sixteenth	....	1	....	....	....	....	....	....
Seventeenth	....	....	....	....	....	....	....	....
Eighteenth	....	1	....	....	1	....	....	....
Nineteenth	....	....	....	....	....	....	....	....
Twentieth	....	....	....	....	....	....	....	....
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Twenty-second	....	....	....	....	....	....	....	....
Twenty-third	....	....	....	....	....	....	....	....
Twenty-fourth	....	....	....	....	....	....	....	....
Bay View	....	....	....	....	....	....	....	....
Sydenham	....	....	....	....	....	....	....	....
Total	....	2	....	....	1	....	....	....

MEASLES.

Months, Color and Sex, Year 1914.

March.				April.				May.				June.			
White.		Colored.		White.		Colored.		White.		Colored.		White.		Colored.	
M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
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Continued on next page.

MEASLES.

TABLE No. 1 (Continued)—*Showing Deaths by*

WARDS.	July.				August.				September.			
	White.		Colored.		White.		Colored.		White.		Colored.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
First												
Second												
Third												
Fourth												
Fifth												
Sixth												
Seventh												
Eighth												
Ninth												
Tenth												
Eleventh												
Twelfth												
Thirteenth												
Fourteenth												
Fifteenth												
Sixteenth												
Seventeenth												
Eighteenth												
Nineteenth												
Twentieth												
Twenty-first												
Twenty-second												
Twenty-third												
Twenty-fourth												
Bay View												
Sydenham												
Total												

MEASLES.

Wards, Months, Color and Sex, Year 1914.

October.				November.				December.				Total.			
White.		Colored.		White.		Colored.		White.		Colored.		White.		Colored.	
M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
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MEASLES.

TABLE No. 2—*Showing Deaths by Age,*

AGES.	January.				February.			
	White.		Colored.		White.		Colored.	
	M.	F.	M.	F.	M.	F.	M.	F.
Under 1 month	....	....	....	....	....	....	....	....
Bet. 1 and 3 mos	....	....	....	....	....	....	....	....
Bet. 3 and 12 mos	....	....	....	....	....	....	....	....
Bet. 1 and 2 yrs	....	1	....	....	....	....	....	....
Bet. 2 and 3 yrs	....	....	....	....	....	....	....	....
Bet. 3 and 4 yrs	....	....	....	....	1	....	....	....
Bet. 4 and 5 yrs	....	....	....	....	....	....	....	....
Bet. 5 and 9 yrs	....	....	....	....	....	....	....	....
Bet. 10 and 14 yrs	....	1	....	....	....	....	....	....
Bet. 15 and 19 yrs	....	....	....	....	....	....	....	....
Bet. 20 and 24 yrs	....	....	....	....	....	....	....	....
Bet. 25 and 29 yrs	....	....	....	....	....	....	....	....
Bet. 30 and 34 yrs	....	....	....	....	....	....	....	....
Bet. 35 and 39 yrs	....	....	....	....	....	....	....	....
Bet. 40 and 44 yrs	....	....	....	....	....	....	....	....
Bet. 45 and 49 yrs	....	....	....	....	....	....	....	....
Bet. 50 and 54 yrs	....	....	....	....	....	....	....	....
Bet. 55 and 59 yrs	....	....	....	....	....	....	....	....
Bet. 60 and 64 yrs	....	....	....	....	....	....	....	....
Bet. 65 and 69 yrs	....	....	....	....	....	....	....	....
Bet. 70 and 74 yrs	....	....	....	....	....	....	....	....
Bet. 75 and 79 yrs	....	....	....	....	....	....	....	....
Bet. 80 and 84 yrs	....	....	....	....	....	....	....	....
Bet. 85 and 89 yrs	....	....	....	....	....	....	....	....
Bet. 90 and 94 yrs	....	....	....	....	....	....	....	....
Bet. 95 and 99 yrs	....	....	....	....	....	....	....	....
Total	....	2	....	....	1	....	....	....

MEASLES.

Months, Color and Sex, Year 1914.

March.				April.				May.				June.			
White.		Colored.		White.		Colored.		White.		Colored.		White.		Colored.	
M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
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Continued on next page.

MEASLES.

TABLE No. 2 (Continued)—*Showing Deaths*

AGES.	July.				August.				September.			
	White.		Colored.		White.		Colored.		White.		Colored.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Under 1 month												
Bet. 1 and 3 mos.												
Bet. 3 and 12 mos.												
Bet. 1 and 2 yrs.												
Bet. 2 and 3 yrs.												
Bet. 3 and 4 yrs.												
Bet. 4 and 5 yrs.												
Bet. 5 and 9 yrs.												
Bet. 10 and 14 yrs.												
Bet. 15 and 19 yrs.												
Bet. 20 and 24 yrs.												
Bet. 25 and 29 yrs.												
Bet. 30 and 34 yrs.												
Bet. 35 and 39 yrs.												
Bet. 40 and 44 yrs.												
Bet. 45 and 49 yrs.												
Bet. 50 and 54 yrs.												
Bet. 55 and 59 yrs.												
Bet. 60 and 64 yrs.												
Bet. 65 and 69 yrs.												
Bet. 70 and 74 yrs.												
Bet. 75 and 79 yrs.												
Bet. 80 and 84 yrs.												
Bet. 85 and 89 yrs.												
Bet. 90 and 94 yrs.												
Bet. 95 and 99 yrs.												
Total												

MEASLES.

by Age, Months, Color and Sex, Year 1914.

October.				November.				December.				Total.			
White.		Colored.		White.		Colored.		White.		Colored.		White.		Colored.	
M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
													1		
													2		
												1			
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							1								
												1	4		

ANNUAL REPORT

OF THE

QUARANTINE STATION

Report of the Quarantine Station.

BALTIMORE, January 2, 1915.

NATHAN R. GORTER, M. D.,
Commissioner of Health.

DEAR SIR:

I herewith submit my annual report of Quarantine Station and Hospital for the year ending December 31, 1914.

Seven hundred and fifty vessels were boarded and inspected during the year. The crews numbered 26,499, and passengers carried were 21,349, making a total of 47,798 persons examined during the year.

The total receipts of the Station from all sources during the year amounted to $18,512.97.

Three hundred and fifty-four cases of smallpox were treated in the Hospital and 92 suspects or contacts cared for in the Detention House, making a total of 446 persons received and cared for during the year.

One case of smallpox was in the Hospital from the year 1913. Three hundred and twenty-seven cases came from the city, 18 from the counties and vessels, and eight cases developed in the Detention House among the contacts. In addition to this number of patients there were also received in the Detention House 82 contacts from the city and 10 from the counties and vessels.

There were four deaths in the Hospital from smallpox during the year.

The tables herewith show more in detail the work of the year.

Respectfully submitted,

THOS. L. RICHARDSON, M. D.,
Quarantine Officer.

TABLE No. 1—*Number of Vessels Boarded and Inspected and the Number of Persons Examined at Quarantine Station During the Year Ending December 31, 1914.*

MONTHS.	Number of Vessels Inspected.	Number of Persons Inspected.		
		Crews.	Passengers.	Total.
January	46	1,911	1,743	3,654
February	48	1,948	2,007	3,955
March	54	2,077	3,315	5,392
April	55	2,152	4,401	6,553
May	62	2,560	3,754	6,314
June	72	2,664	2,926	5,590
July	69	3,019	3,167	6,186
August	60	1,663	9	1,672
September	74	2,451	11	2,462
October	65	1,814	9	1,823
November	76	2,090	4	2,094
December	69	2,100	3	2,103
Total	750	26,499	21,349	47,798

TABLE NO. 2—*Amount of Money Received for Quarantine Fees and Paid into the City Treasury During the Year Ending December 31, 1914.*

MONTHS.	Vessels.	Care of Patients, Fumigation of Vessels, etc.	Total.
January	$1,172 07	$262 00	$1,434 07
February	1,223 26	220 00	1,443 26
March	1,127 42	180 00	1,307 42
April	1,328 81	39 25	1,368 06
May	1,286 70	281 10	1,567 80
June	1,404 33	305 00	1,838 91
July	1,556 01	380 30	1,936 31
August	1,066 89	275 00	1,341 89
September	1,533 91	305 00	1,838 91
October	1,290 44	165 00	1,455 44
November	1,475 16	125 00	1,600 16
December	1,420 32	90 00	1,510 32
Total	$15,885 32	$2,627 65	$18,512 97

TABLE NO. 3—*Number of Patients Treated and Suspects Detained at Quarantine Hospital During the Year Ending December* 31, 1914.

DISEASE.	Remaining in Hospital from 1913.	Received in 1914.	Total.	Discharged in 1914.	Deaths in 1914.	Remaining in Hospital December 31, 1914.	Total.
Smallpox	1	353	354	350	4	.....	354
Suspects	.....	92	92	92	.....	.....	92
Total	1	445	446	442	4	.....	446

TABLES OF VITAL STATISTICS

OF BALTIMORE CITY

FOR THE YEAR ENDING DECEMBER 31, 1914

VITAL STATISTICS FOR THE CITY OF BALTIMORE FOR THE YEAR ENDING DECEMBER 31, 1914.

Estimated population (as of July 1, 1914)..... (White, 492,226; colored, 87,367.)		579,593
Births reported—white males.....	5,477	
Births reported—white females.....	5,188	
	10,665	
Births reported—colored males.....	965	
Births reported—colored females.....	1,007	
	1,972	
Total births reported.....		12,637
Birth rate per 1,000 of the population, whole.....		21.98
Birth rate per 1,000 of the population, white.....		21.67
Birth rate per 1,000 of the population, colored.....		23.71
Total mortality—white males.....	4,219	
Total mortality—white females.....	3,695	
	7,914	
Total mortality—colored males.....	1,368	
Total mortality—colored females.....	1,269	
	2,637	
Total deaths reported.....		10,551
Annual death rate per 1,000 of the population, whole.....		18.20
Annual death rate per 1,000 of the population, less non-residents.....		17.20
Annual death rate per 1,000 of the population, white.....		16.08
Annual death rate per 1,000 of the population, less non-residents.....		15.09
Annual death rate per 1,000 of the population, colored.....		30.18
Annual death rate per 1,000 of the population, less non-residents.....		29.10
Total deaths from typhoid fever		130
Total deaths from measles		6
Total deaths from scarlet fever.....		36
Total deaths from whooping cough.....		90
Total deaths from diphtheria and croup.....		91

Total deaths from influenza	72
Total deaths from dysentery	9
Total deaths from tuberculosis	1,145
Total deaths from other forms of tuberculosis	199
Total deaths from cancer	596
Total deaths from anaemia	24
Total deaths from diseases of the heart	1,067
Total deaths from bronchitis	159
Total deaths from pneumonia	1,201
Total deaths from diarrhoea and enteritis, under two years	564
Total deaths from diarrhoea and enteritis, over two years	78
Total deaths from Bright's disease	798
Total deaths from puerperal hemorrhage	11
Total deaths from puerperal septicaemia	35
Total deaths from puerperal convulsions	15
Total deaths from sunstroke and heat	14
Total deaths from accidents	402
Total deaths from suicides	138
Total deaths from homicides	43
Total deaths of children under five years	2,632

Deaths in Public Institutions, etc.

Baltimore City Jail	9
Penitentiary	14
Hospitals and asylums	2,529
Total	2,552
Number of coroners' inquests	1,426
Number of autopsies	65
Number of non-residents dying within the city limits, white	487
Number of non-residents dying within the city limits, colored	95

HOWARD A. MOORE,
Statistician.

TABLE I—*Number of Infectious and Contagious Diseases Reported During Year* 1914.

DISEASES.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
Smallpox	29	82	143	44	15	11	1	.....	.....	.....	.....	.....	325
Diphtheria	149	138	111	58	68	49	40	55	81	156	173	155	1,233
Pseudo-membranous croup	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Croup	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Scarlet fever	79	79	115	93	69	80	42	31	17	30	54	113	802
Typhoid fever	19	12	13	10	31	45	70	134	130	132	97	64	757
Measles	40	55	88	124	71	30	32	6	7	6	4	3	466
Mumps	49	80	164	102	114	46	14	5	4	8	5	11	602
Whooping cough	58	73	62	63	97	60	48	27	7	11	8	8	522
Varicella	138	149	134	74	35	27	4	4	4	20	84	115	788
Tuberculosis pulmonalis	113	109	91	135	157	141	110	81	96	161	99	117	1,410
Cholera	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Yellow fever	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Acute anterior poliomyelitis	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	1
Cerebro-spinal fever	.....	.....	.....	.....	.....	.....	1	.....	.....	1	.....	1	3
Total	674	777	921	703	657	489	362	344	346	525	524	587	6,900

TABLE II—*Number of Deaths According to*

AGES.	Jan.		Feb.		March.		April.		May.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Under 3 months.....	39	26	44	25	51	28	33	33	34	25
Bet. 3 and 12 months...	15	4	18	17	22	24	20	22	23	21
Bet. 1 and 2 yrs.....	14	14	14	10	18	14	12	10	13	10
Bet. 2 and 3 yrs.....	8	4	6	5	7	5	....	1	6	....
Bet. 3 and 4 yrs.....	3	6	2	1	4	1	4	2	2	2
Bet. 4 and 5 yrs.....	1	1	.4	1	1	2	2	....	3	1
Total under 5 yrs.	80	55	88	59	103	74	71	68	81	59
Bet. 5 and 9 yrs....	9	5	4	7	6	6	9	11	6	....
Bet. 10 and 14 yrs....	3	8	6	1	4	4	5	1	4	5
Bet. 15 and 19 yrs....	6	7	4	8	5	11	6	2	4	6
Bet. 20 and 24 yrs....	14	14	12	9	21	13	11	9	5	14
Bet. 25 and 29 yrs....	18	14	18	5	19	10	13	14	9	11
Bet. 30 and 34 yrs....	9	7	12	19	21	11	17	8	17	12
Bet. 35 and 39 yrs....	15	16	15	9	16	11	22	10	14	14
Bet. 40 and 44 yrs....	28	21	21	10	25	16	14	11	25	11
Bet. 45 and 49 yrs....	15	17	26	20	22	20	17	23	20	12
Bet. 50 and 54 yrs....	25	26	26	22	34	19	33	14	26	15
Bet. 55 and 59 yrs....	34	15	19	30	33	24	25	23	24	19
Bet. 60 and 64 yrs....	35	33	30	27	37	36	26	30	32	20
Bet. 65 and 69 yrs....	29	25	17	30	40	42	29	25	26	22
Bet. 70 and 74 yrs....	32	34	32	26	45	36	21	24	26	23
Bet. 75 and 79 yrs....	14	26	23	23	22	25	18	23	18	19
Bet. 80 and 84 yrs....	20	27	13	14	14	16	10	14	11	13
Bet. 85 and 89 yrs....	4	13	5	11	7	9	6	7	3	10
Bet. 90 and 94 yrs....	2	....	1	3	1	3	2	1	....	4
Bet. 95 and 99 yrs....	.....	1	....	3	....	1	....	....	....	....
Bet. 100 and 104 yrs....	.....	....	....	....	....	....	....	....	....	....
Bet. 105 and 109 yrs....	.....	....	....	....	....	....	....	....	....	....
Over 110 years.....	.....	....	....	....	....	....	....	....	....	....
Unknown age.....	.....	....	....	....	....	....	....	....	....	....
Total.....	392	364	372	336	475	387	355	318	351	289

Age and Sex During the Year 1914—*White.*

June.		July.		Aug.		Sept.		Oct.		Nov.		Dec.		Total.
M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	
33	30	41	37	47	51	40	31	33	30	43	28	35	34	851
24	12	67	52	56	42	30	24	24	28	19	24	6	14	608
6	4	15	15	13	12	10	11	9	7	13	7	9	9	269
3	1	4	3	4	3	9	4	2	1	6	6	....	2	90
3	1	3	2	1	3	1	2	1	6	4	1	2	1	58
1	1	5	2	3	....	2	....	1	4	4	3	1	1	44
70	49	135	111	124	111	92	72	70	76	89	69	53	61	1,920
4	8	5	2	6	4	7	3	3	5	8	4	8	6	136
4	1	8	4	7	2	3	4	2	4	4	4	4	1	93
8	9	6	4	4	5	2	5	5	6	7	5	3	10	138
11	12	5	10	12	5	7	8	8	14	8	8	17	10	257
17	6	12	9	8	8	20	9	12	8	9	10	12	6	277
17	6	17	10	8	7	7	7	12	9	12	9	18	9	281
18	12	15	6	12	13	13	9	11	11	14	18	18	14	326
12	15	20	14	15	10	19	9	11	9	18	13	18	9	374
15	16	24	17	16	12	15	12	18	9	15	14	22	22	419
18	6	14	14	21	10	17	15	24	17	23	17	30	11	477
20	16	19	22	22	15	24	19	26	9	27	15	31	21	532
22	17	15	12	20	22	22	16	18	30	16	16	28	26	586
17	20	15	16	19	9	28	21	22	13	23	18	29	33	568
17	25	23	18	17	23	20	19	15	17	24	14	24	23	578
14	26	11	12	16	14	7	14	10	18	11	29	17	28	438
6	9	12	10	10	16	12	11	9	11	6	12	12	17	305
2	5	9	5	3	4	4	3	2	5	5	8	7	13	150
.....	3	2	4	....	4	....	1	....	1	....	3	5	8	48
.....	1	1	....	....	....	....	....	....	....	1	....	....	2	10
.....	....	....	....	....	....	....	....	....	....	1	....	....	....	1
.....	....	....	....	....	....	....	....	....	....	....	....	....	....	.....
.....	....	....	....	....	....	....	....	....	....	....	....	....	....	.....
.....	....	....	....	....	....	....	....	....	....	....	....	....	....	.....
292	262	368	300	340	294	319	257	278	272	321	286	356	330	7,914

TABLE III—*Number of Deaths According to*

AGES.	Jan.		Feb.		March.		April.		May.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Under 3 months.....	11	13	18	12	12	10	10	21	7	8
Bet. 3 and 12 months...	8	9	12	7	6	6	10	9	8	10
Bet. 1 and 2 yrs.....	6	4	4	4	14	4	6	2	8	8
Bet. 2 and 3 yrs.....	2	1	1	2	2	2	3	3	2	4
Bet. 3 and 4 yrs.....	1	2	1	....	2	1	6	2	2	5
Bet. 4 and 5 yrs.....	.....	2	....	2	2	1	....	1	....	....
Total under 5 yrs.	28	31	36	27	38	24	35	38	27	35
Bet. 5 and 9 yrs....	5	3	2	7	2	1	2	5	1	4
Bet. 10 and 14 yrs....	1	1	....	1	....	1	4	....	....	2
Bet. 15 and 19 yrs....	4	5	5	1	3	9	4	5	3	6
Bet. 20 and 24 yrs....	4	8	4	5	5	8	9	10	7	6
Bet. 25 and 29 yrs....	6	5	8	2	5	6	4	11	7	5
Bet. 30 and 34 yrs....	9	5	6	8	7	5	9	10	6	8
Bet. 35 and 39 yrs....	5	8	9	5	13	16	7	9	12	5
Bet. 40 and 44 yrs....	8	11	14	9	10	9	13	6	6	7
Bet. 45 and 49 yrs....	5	6	11	13	12	9	12	6	11	5
Bet. 50 and 54 yrs....	14	7	9	4	10	8	3	8	8	8
Bet. 55 and 59 yrs....	8	13	2	13	9	7	6	9	6	4
Bet. 60 and 64 yrs....	4	3	7	7	10	9	9	7	5	8
Bet. 65 and 69 yrs....	4	3	4	4	7	6	4	1	2	2
Bet. 70 and 74 yrs....	3	6	2	....	4	8	5	4	6	2
Bet. 75 and 79 yrs....	.....	4	4	....	2	1	2	3	4	1
Bet. 80 and 84 yrs....	1	4	1	3	....	1	....	2	....	4
Bet. 85 and 89 yrs....	.....	1	....	....	....	....	....	1	1	....
Bet. 90 and 94 yrs....	.....	....	1	1	....	....	....	....	....	1
Bet. 95 and 99 yrs....	....	....	....	....	....	2	....	....	....	....
Bet. 100 and 104 yrs....	.....	....	....	....	....	....	....	....	....	....
Bet. 105 and 109 yrs....	.....	....	....	....	....	....	....	1	....	....
Over 110 years.....	.....	....	....	....	....	....	....	....	....	....
Unknown age.....	.....	....	....	....	....	....	....	....	....	....
Total.....	109	124	125	110	137	130	128	136	112	113

Age and Sex During the Year 1914—*Colored.*

June.		July.		Aug.		Sept.		Oct.		Nov.		Dec.		Total.
M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	
5	4	16	14	16	12	13	11	10	8	17	10	8	10	276
11	5	22	15	14	10	12	11	9	8	5	4	5	3	219
3	4	8	3	8	5	7	4	1	4	4	5	5	4	125
3	....	2	1	....	1	2	1	1	....	2	1	....	2	38
3	1	1	....	3	....	....	2	1	1	....	1	1	....	36
1	....	1	....	1	1	....	1	2	1	....	2	....	....	18
26	14	50	33	42	29	34	30	24	22	28	23	19	19	712
2	3	1	6	1	1	1	1	1	2	1	2	1	1	56
3	3	3	....	....	1	1	....	....	....	3	2	1	2	29
2	5	3	3	4	4	1	4	4	2	4	2	2	6	91
8	5	8	6	6	9	8	5	5	6	7	3	7	8	157
8	7	7	8	7	8	8	4	7	6	1	7	4	8	149
7	5	3	1	4	4	8	3	8	8	6	2	10	2	144
13	9	6	9	9	7	9	6	3	3	10	4	7	4	188
7	6	10	5	5	9	6	8	9	9	11	9	6	6	199
8	11	4	7	10	5	5	3	5	9	8	4	8	9	186
11	5	11	6	5	5	11	7	7	5	8	8	10	11	189
5	4	5	2	4	4	7	....	4	4	5	3	3	6	133
6	3	4	2	5	2	4	5	8	4	5	5	5	7	134
1	4	7	2	1	7	2	7	5	1	6	4	4	3	91
3	1	3	5	3	4	2	2	2	3	3	3	5	3	82
2	4	3	1	....	4	1	1	3	3	1	2	2	2	50
1	....	2	1	....	2	1	....	1	2	1	2	....	2	31
1	....	....	....	....	....	....	....	....	1	....	2	....	1	7
....	....	....	2	....	....	....	....	....	....	....	....	....	....	6
....	....	....	....	....	....	....	....	....	....	....	....	....	....	2
....	....	....	....	....	....	....	....	....	....	....	....	....	....	.....
....	....	....	....	....	....	....	....	....	....	....	....	....	....	1
....	....	....	....	....	....	....	....	....	....	....	....	....	....	.....
....	....	....	....	....	....	....	....	....	....	....	....	....	....	.....
114	89	130	99	106	105	109	86	96	90	108	87	94	100	2,637

TABLE IV—*Nativity of the Decedents for the Year* 1914.

NATIVITY.	Jan.	Feb.	March.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
United States—White males	280	274	361	268	274	230	279	276	249	221	256	280	3,248
United States—White females	265	268	302	243	223	200	231	234	208	216	228	240	2,858
United States—Colored males	107	118	129	124	107	105	127	102	103	92	106	91	1,311
United States—Colored females	121	106	129	130	113	88	99	102	83	84	86	100	1,241
Foreign—White males	105	96	105	76	71	58	82	61	62	55	63	69	903
Foreign—White females	96	66	83	73	65	61	65	53	49	55	58	87	811
Foreign—Colored males	1	2	2	....	....	3	2	....	....	....	2	1	13
Foreign—Colored females	.....	.....	.....	....	....	....	....	2	....	1	....	....	3
Unknown—White males	7	2	9	11	6	4	7	3	8	2	2	7	68
Unknown—White females	3	2	2	2	1	1	4	7	....	1	....	3	26
Unknown—Colored males	1	5	6	4	5	6	1	4	6	4	....	2	44
Unknown—Colored females	3	4	1	6	....	1	....	1	3	5	1	....	25
Total	989	943	1,129	937	865	757	897	845	771	736	802	880	10,551

Marriages for the Year 1914.

	Jan.	Feb.	March.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
Marriages	554	473	416	573	415	831	504	531	574	655	654	565	6,745

TABLE V—*Number of Births Reported During the Year* 1914.

SEX AND COLOR.	Jan.	Feb.	March.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
White males	519	403	495	426	393	458	467	439	460	493	442	482	5,477
White females	471	350	438	412	419	440	466	437	394	458	410	493	5,188
Colored males	73	112	90	61	66	59	71	96	103	83	64	87	965
Colored females	95	87	89	94	70	83	42	92	96	92	73	94	1,007
Total	1,158	952	1,112	993	948	1,040	1,046	1,064	1,053	1,126	989	1,156	12,637
Illegitimates.													
White males	22	14	12	8	8	13	11	11	9	7	12	17	144
White females	26	16	10	12	8	14	16	12	10	14	11	7	156
Colored males	15	25	20	10	18	13	16	25	20	23	11	18	214
Colored females	21	17	16	20	17	21	5	24	14	19	17	27	218
Total	84	72	58	50	51	61	48	72	53	63	51	69	732
Still Births.													
White males	42	25	38	38	43	31	27	22	30	39	31	48	414
White females	19	14	13	17	13	18	22	11	14	18	9	28	196
Colored males	18	21	31	24	28	18	22	15	21	13	24	20	255
Colored females	10	11	15	14	15	18	15	9	14	10	14	16	161
Total	89	71	97	93	99	85	86	57	79	80	78	112	1,026

TABLE VI—*Number of Deaths in Hospitals, Public Institutions, Inquests, Etc., During the Year* 1914.

HOSPITALS, INSTITUTIONS, ETC.	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
Hospitals—													
Resident, white	118	105	130	112	107	91	112	89	97	90	101	104	1,256
Resident, colored	34	26	33	37	36	33	36	32	30	26	30	28	381
Non-resident, white	33	49	33	42	41	40	39	31	38	43	33	35	457
Non-resident, colored	8	6	8	6	11	9	7	7	9	10	4	7	92
Other Institutions, Asylums, Etc.													
Resident, white	19	21	33	28	22	12	19	31	25	14	21	26	271
Resident, colored	4	5	1	4	.....	2	2	2	7	8	.....	4	39
Non-resident, white	2	2	5	4	2	3	1	2	1	5	3	.....	30
Non-resident, colored	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	1	1	3
Jail—													
White residents	1	1	2	1	.....	.....	2	1	.....	.....	.....	.....	8
White non-residents	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Colored residents	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	1
Colored non-residents	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Penitentiary—													
White residents	1	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	2
White non-residents	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Colored residents	.....	1	3	.....	.....	1	.....	1	4	.....	1	1	12
Colored non-residents	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Bay View Asylum—													
White residents	38	31	39	24	37	30	43	29	25	29	22	28	375
Colored residents	28	27	25	25	29	28	24	29	22	27	20	16	300
Sydenham Hospital	3	1	4	1	1	.....	.....	.....	.....	.....	2	1	13
Total	289	275	317	285	286	249	285	254	259	252	238	251	3,240
Coroners' inquests	147	119	135	131	101	114	123	108	99	117	110	122	1,426
Autopsies	5	6	12	5	5	3	6	5	4	5	5	4	65

TABLE VII—*Number of Deaths According to Occupations During the Year* 1914.

OCCUPATIONS.	Jan.	Feb	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
Artists and designers	.....	.....	1	.....	1	1	1	.....	.....	.....	1	.....	5
Bakers	8	1	1	4	.....	.....	3	2	.....	2	2	2	25
Barbers and wigmakers	2	6	5	3	2	2	4	1	3	4	.....	4	36
Blacksmiths and wheelwrights	4	3	1	4	2	4	2	.....	2	2	.....	4	28
Bookkeepers and clerks	16	18	20	20	24	9	13	18	12	15	12	21	198
Brassfinishers	1	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	2
Bricklayers and masons	1	3	5	3	1	3	3	.....	3	1	.....	3	26
Butchers	1	1	3	5	2	2	3	1	2	2	2	.....	24
Cabinetmakers	2	1	1	1	3	4	2	4	1	.....	2	1	22
Carpenters and builders	5	9	15	15	17	5	8	9	11	7	7	11	119
Cigarmakers and dealers	4	2	5	3	2	4	1	4	2	5	5	6	43
Clergymen	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	3	2	5
Confectioners and fruiterers	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Cooks	5	8	18	9	7	5	3	7	3	11	7	9	92
Diemakers	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Drivers and hostlers	9	16	9	12	6	4	13	12	7	12	13	12	125
Druggists and chemists	.....	.....	3	.....	.....	1	.....	2	1	.....	1	2	10
Dyers and scourers	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Electrical workers	2	6	3	.....	.....	.....	1	2	.....	1	.....	.....	15
Engineers and machinists	9	10	11	9	10	11	6	8	10	9	6	13	112
Firemen	.....	1	.....	3	2	3	.....	2	1	2	4	1	19
Gasfitters	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	1
Grocers	4	2	2	1	.....	2	3	.....	1	2	2	3	22
Hodcarriers	1	.....	.....	.....	2	.....	.....	.....	.....	.....	2	.....	5
Horseshoers	1	1	.....	1	.....	1	.....	.....	.....	1	1	.....	6
Housewives	150	118	120	139	90	90	96	88	118	115	108	144	1,376
Jewelers and watchmakers	1	.....	1	1	3	1	1	.....	.....	1	2	1	12

TABLE VII (Continued)—*Number of Deaths According to Occupations During the Year* 1914.

OCCUPATIONS.	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
Laborers	86	84	105	79	72	74	69	62	74	72	57	71	905
Laundrymen and laundresses	11	9	18	13	9	11	9	13	14	5	10	7	129
Lawyers	1	1	3	4	2	4	2	.....	3	2	2	.....	24
Liquor dealers and barkeepers	5	7	3	6	6	2	7	1	2	3	3	2	47
Merchants	14	8	13	9	10	9	4	7	6	6	11	12	109
Mill operatives	1	2	.....	.....	1	3	2	1	1	1	1	2	15
Moulders	3	4	5	2	5	3	3	4	2	1	1	4	37
Nurses	4	1	4	.....	2	1	3	2	.....	1	.....	.....	18
Oyster shuckers	.....	2	2	1	4	.....	.....	.....	.....	1	1	.....	11
Painters and varnishers	4	3	3	6	8	7	4	2	7	2	5	2	53
Paperhangers and decorators	.....	1	.....	.....	.....	3	2	1	.....	2	.....	1	10
Physicians and dentists	.....	3	4	3	4	3	8	2	2	2	3	2	36
Planing mill workers	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Plasterers and lathers	1	1	3	.....	2	.....	1	.....	1	2	1	2	14
Plumbers and steamfitters	4	3	6	4	1	2	4	.....	3	1	1	1	30
Policemen and watchmen	9	6	6	2	4	5	4	4	4	3	4	3	54
Printers and bookbinders	1	.....	1	1	2	3	1	2	4	1	5	1	22
Religious	2	1	3	3	4	2	3	1	1	3	.....	1	24
Salesmen and saleslades	10	7	12	10	5	8	5	5	3	5	8	9	87
School teachers	3	3	1	2	3	2	2	4	4	2	2	2	30
Seamstresses	9	6	4	4	4	2	4	2	1	7	5	2	50
Servants	26	21	23	20	29	25	20	29	18	20	12	25	268
Shoemakers and harnessmakers	4	6	8	3	1	1	3	3	5	4	3	7	48
Solicitors and collectors	2	2	2	3	3	1	3	1	4	4	4	2	31
Steam railway employees	11	7	6	5	4	1	4	6	3	2	3	13	65
Stevedores	9	4	10	4	5	1	7	5	4	4	3	4	60
Stonecutters and marbleworkers	1	2	4	1	2	.....	1	.....	.....	.....	1	2	14

Street pavers	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	1	.....	2
Street railway employees	2	2	1	1	.....	2	.....	.....	.....	2	3	1	14
Structural iron workers	3	.....	2	.....	....	1	.....	1	2	1	1	1	12
Tailors and clothiers	9	5	10	8	9	3	7	4	9	3	12	10	89
Tilesetters and cementers	1	1	1	.....	....	1	1	.....	.....	.....	.....	.....	5
Tin and sheet-iron workers	3	2	3	2	2	2	1	6	3	1	2	2	29
Upholsterers	1	1	.....	.....	1	1	1	.....	....	.....	.....	1	6
All others	155	160	236	168	162	146	129	107	101	104	136	150	1,754
Not specified	368	372	403	339	324	275	420	410	313	277	321	299	4,121
Total	989	943	1,129	937	865	757	897	845	771	736	802	880	10,551

TABLE VIII—*Showing Deaths According to*

SOCIAL CONDITION.	Jan.		Feb.		March.		April.		May.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
White.										
Single	170	133	153	107	202	139	144	108	145	116
Married	153	111	155	113	188	117	157	118	156	85
Widows	....	119	....	114	....	130	....	92	....	87
Widowers	62	....	61	....	78	....	48	....	43	....
Divorced	2	1	3	1	....	....	....	....	3	1
Not given	5	....	....	1	7	1	6	....	4	....
Total	392	364	372	336	475	387	355	318	351	289
Colored.										
Single	58	57	68	43	69	49	66	66	54	56
Married	38	23	42	36	45	31	39	39	35	34
Widows	....	39	....	30	....	48	....	29	....	23
Widowers	11	....	14	....	22	....	18	....	18	....
Divorced	....	....	....	....	....	....	2	....	2	....
Not given	2	5	1	1	1	2	3	2	3	....
Total	109	124	125	110	137	130	128	136	112	113

Social Condition During the Year 1914.

June.		July.		Aug.		Sept.		Oct.		Nov.		Dec.		Total.
M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	
137	92	207	151	194	150	152	109	112	118	159	114	133	106	3,351
118	86	111	84	110	72	135	87	123	87	115	85	155	104	2,825
....	84	....	62	....	70	....	61	....	66	....	85	....	118	1,088
34	....	48	....	31	....	26	....	40	....	41	....	58	....	570
1	....	....	3	....	2	....	....	....	1	5	2	3	2	30
2	....	2	....	5	....	6	....	3	....	1	....	7	....	50
292	262	368	300	340	294	319	257	278	272	321	286	356	330	7,914
70	38	76	50	63	53	65	44	50	43	59	35	45	41	1,318
31	25	39	31	30	25	32	21	30	21	34	24	37	25	767
....	24	....	17	....	26	....	18	....	24	....	27	....	34	339
11	....	14	....	9	....	9	....	13	....	14	....	10	....	163
....	1	1	1	1	....	1	1	....	1	....	....	....	....	11
2	1	....	....	2	2	2	2	3	1	1	1	2	....	39
114	89	130	99	105	106	109	86	96	90	108	87	94	100	2,637

TABLE IX—*Number of Deaths from all Causes During the Year* 1914.

DISEASES.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
I—*General Diseases.*													
1. Typhoid fever	10	7	3	6	4	15	8	9	18	22	18	10	130
2. Typhus fever	....	....	....	....	....	....	....	....	....	....	....	....	.....
3. Relapsing fever	....	....	....	....	....	....	....	....	....	....	....	....	.....
4. Malaria	....	....	1	....	....	2	....	1	1	....	....	1	6
5. Smallpox	....	....	....	2	....	1	....	....	....	....	....	....	3
6. Measles	3	1	1	....	1	....	....	....	....	....	....	....	6
7. Scarlet fever	4	5	12	2	1	3	1	3	3	2	2	1	36
8. Whooping cough	6	4	5	9	12	14	23	8	6	3	3	....	90
9. Diphtheria and croup	17	6	7	5	7	1	2	8	1	6	17	9	91
10. Influenza	15	16	17	9	4	3	2	2	....	....	1	2	72
11. Miliary fever	....	....	....	....	....	....	....	....	....	....	....	....	.....
12. Asiatic cholera	....	....	....	....	....	....	....	....	....	....	....	....	.....
13. Cholera nostras	....	....	....	....	....	....	....	....	....	....	....	....	.....
14. Dysentery	1	1	....	....	....	2	1	3	2	....	....	....	10
15. Plague	....	....	....	....	....	....	....	....	....	....	....	....	.....
16. Yellow fever	....	....	....	....	....	....	....	....	....	....	....	....	.....
17. Leprosy	....	....	....	....	....	....	....	....	....	....	....	....	.....
18. Erysipelas	1	3	3	3	3	3	2	2	1	1	2	4	28
19. Other epidemic diseases (varicella)	....	1	2	2	....	....	....	1	....	....	....	....	6
20. Purulent infection and septichaemia	5	4	6	3	4	1	4	....	3	3	1	2	36
21. Glanders	....	....	....	....	....	....	....	....	....	....	....	....	.....
22. Anthrax	....	....	....	....	....	....	....	....	....	....	....	....	.....

23. Rabies	....	....	....	....	....	....	....	....	....	....	....	....	.....
24. Tetanus	....	1	3	....	1	4	2	....	2	....	2	1	16
25. Mycoses	....	....	....	....	....	....	....	....	....	....	....	....	.....
26. Pellagra	....	....	....	....	....	1	2	....	....	1	....	....	4
27. Beriberi	....	....	....	....	....	....	....	....	....	....	....	....	.....
28. Tuberculosis of the lungs	104	124	137	97	91	83	93	73	81	76	77	109	1145
29. Acute miliary tuberculosis	5	2	5	9	6	6	2	3	7	6	4	5	60
30. Tuberculous meningitis	3	3	10	7	7	5	4	6	4	5	4	2	60
31. Abdominal tuberculosis	2	5	3	3	1	5	6	2	5	1	1	6	40
32. Pott's disease	....	1	....	....	1	....	....	2	....	1	2	....	7
33. White swellings	2	....	1	....	....	....	....	....	1	....	1	3	8
34. Tuberculosis of other organs	1	1	1	4	3	2	2	....	2	1	1	....	18
35. Disseminated tuberculosis	....	....	1	1	....	....	....	1	1	....	2	....	6
36. Rickets	2	4	1	1	2	2	....	1	....	1	1	....	15
37. Syphilis	10	9	10	7	13	14	7	9	8	13	15	14	129
38. Gonococcus infection	1	....	1	....	....	....	1	....	....	....	....	....	3
Concers and Other Malignant Tumors.													
39. Of the buccal cavity	1	....	....	3	5	3	1	1	....	1	3	....	18
40. Of the stomach, liver	19	15	25	19	17	12	15	18	13	17	21	21	212
41. Of the peritonaeum, intestines, rectum	7	2	8	11	9	10	3	7	12	5	3	4	81
42. Of the female genital organs	11	9	12	13	8	14	6	7	8	5	2	10	105
43. Of the breast	7	3	11	4	6	3	6	6	4	3	3	5	61
44. Of the skin	....	....	....	....	2	....	....	1	....	2	1	3	9
45. Of other organs and of organs not specified	8	18	11	10	6	6	7	13	5	3	9	13	109
46. Other tumors (tumors of the female genital organs excepted)	....	....	....	....	....	1	....	....	....	....	....	1	2
47. Acute articular rheumatism	1	10	2	5	3	3	2	1	1	3	3	2	36
48. Chronic rheumatism and gout	7	6	5	6	4	4	1	1	2	1	....	2	39
49. Scurvy	....	....	....	....	....	....	....	1	....	....	....	1	2
50. Diabetes	17	14	18	7	8	9	10	4	6	7	7	8	115
51. Exophthalmic goitre	1	1	1	1	1	1	1	1	....	....	....	....	8
52. Addison's disease	....	....	....	....	....	....	....	....	1	....	....	....	1

TABLE IX (Continued)—*Number of Deaths from all Causes During the Year 1914.*

DISEASES.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
53. Leuchaemia	1	....	....	....	....	2	....	....	1	1	....	3	8
54. Anaemia, chlorosis	1	2	2	3	3	2	3	3	3	2	1	2	24
55. Other general diseases	....	1	....	....	....	1	....	....	....	....	....	1	3
56. Alcoholism, acute or chronic	11	6	8	4	5	7	3	3	2	1	5	1	55
57. Chronic lead poisoning	....	....	....	....	1	....	....	....	....	....	....	....	1
58. Other chronic occupation poisonings	....	....	....	....	....	....	....	....	....	....	....	....	.....
59. Other chronic poisonings	....	....	1	....	....	1	....	....	....	....	....	....	2
60. Encephalitis	3	1	1	....	....	....	....	....	....	1	....	....	6
II—*Diseases of the Nervous System and of the Organs of Special Sense.*													
61. Simple meningitis	5	5	3	6	6	4	5	1	5	1	4	2	47
Epidemic cerebral spinal	2	1	1	2	2	....	4	....	....	1	....	1	14
62. Locomotor ataxia	2	2	....	2	3	1	....	2	1	....	....	1	14
63. Other diseases of the spinal cord	3	2	7	2	2	....	1	3	....	2	....	3	25
Infantile paralysis	....	....	....	....	....	....	....	....	1	1	....	....	2
64. Cerebral haemorrhage, apoplexy	45	39	46	49	46	40	27	33	47	40	46	51	509
65. Softening of the brain	....	....	1	....	....	....	....	2	....	....	1	2	6
66. Paralysis without specified cause	11	5	13	8	5	10	6	4	10	7	5	6	90
67. General paralysis of the insane	4	2	1	1	1	3	3	1	1	4	3	4	28
68. Other forms of mental alienation	....	2	....	....	....	1	2	1	....	....	....	....	6
69. Epilepsy	2	....	2	2	5	1	4	....	2	2	2	....	22
70. Convulsions (nonpuerperal)	....	....	....	....	....	....	....	....	....	....	....	....	.....

71. Convulsions of infants	1	4	3	5	7	1	4	6	4	3	5	5	48
72. Chorea	....	....	1	....	....	....	....	1	....	....	....	....	2
73. Hysteria	....	....	....	....	....	....	2	....	....	....	....	1	3
74. Other diseases of the nervous system	2	....	1	4	4	3	3	....	1	1	1	2	22
75. Diseases of the eyes and their annexa	....	....	1	....	....	....	....	....	....	....	....	....	1
76. Diseases of the ears	3	2	2	....	3	....	2	1	1	1	....	1	16
III—*Diseases of the Circulatory System.*													
77. Pericarditis	1	....	1	1	1	1	....	....	....	2	....	1	8
78. Acute endocarditis	8	7	10	4	14	7	9	7	4	7	10	10	97
79. Organic diseases of the heart	92	88	98	74	60	68	58	53	61	75	83	90	900
80. Angina pectoris	....	3	7	8	6	1	4	3	9	6	6	9	62
81. Diseases of the arteries, atheroma, aneuryism etc.	39	42	52	40	25	15	22	29	23	6	9	9	311
82. Embolism and thrombosis	1	1	2	2	3	3	1	2	3	1	....	3	22
83. Diseases of veins (varices, haemorrhoids, phlebitis, etc.)	....	....	....	1	....	1	1	....	....	....	1	....	4
84. Diseases of the lymphatic system (lymphangitis, etc.)	....	2	....	....	1	....	....	....	....	....	....	....	3
85. Haemorrhage; other diseases of the circulatory system	1	1	....	....	....	....	....	....	....	....	1	....	3
IV—*Diseases of the Respiratory System.*													
86. Diseases of the nasal fossae	....	....	....	....	....	1	....	....	....	....	....	....	1
87. Diseases of the larynx	1	1	1	2	1	....	....	....	....	....	1	....	7
88. Diseases of the thyreoid body	....	....	....	....	....	1	....	....	....	1	....	....	2
89. Acute bronchitis	10	14	14	12	8	4	6	5	4	7	9	5	98
90. Chronic bronchitis	14	7	5	6	4	2	3	2	2	4	7	5	61
91. Broncho-pneumonia	56	79	96	62	67	23	31	17	17	31	44	50	573
92. Pneumonia	101	78	107	73	54	30	18	13	21	28	42	63	628
93. Pleurisy	1	3	3	....	2	....	....	2	1	3	1	1	17
94. Pulmonary congestion, pulmonary apoplexy	6	3	4	1	2	2	....	1	....	2	1	2	24

TABLE IX (Continued)—*Number of Deaths from all Causes During the Year* 1914.

DISEASES.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
95. Gangrene of the lung	....	....	....	....	....	....	....	....	....	....	....	....	.....
96. Asthma	2	5	1	2	1	....	1	....	1	2	5	2	22
97. Pulmonary emphysema	1	....	....	....	....	....	....	....	1	....	1	1	4
98. Other diseases of the respiratory system, tuberculosis excepted	....	....	1	1	....	2	....	3	....	2	....	1	10
V—*Diseases of the Digestive System.*													
99. Diseases of the mouth and annexa	1	1	1	....	1	....	1	....	....	....	1	....	6
100. Diseases of the pharynx	....	2	1	1	....	....	1	....	....	....	2	....	7
101. Diseases of the oesophagus	....	1	....	....	....	....	....	....	....	....	....	....	1
102. Ulcer of the stomach	....	3	2	....	5	....	....	4	2	....	....	2	18
103. Other diseases of the stomach, cancer excepted	3	8	9	10	8	3	9	3	8	8	9	7	85
104. Diarrhoea and enteritis (under two years)	9	6	11	10	11	28	161	132	82	55	44	15	564
105. Diarrhoea and enteritis (two years and over)	8	....	1	6	4	7	9	17	10	10	4	2	78
106. Ankylostomiasis	....	....	....	....	....	....	....	....	....	....	....	....	.....
107. Intestinal parasites	....	....	....	....	....	....	1	....	....	....	....	....	1
108. Appendicitis and typhlitis	2	7	6	8	6	6	9	5	6	9	10	6	80
109. Hernias, intestinal obstructions	4	5	10	13	13	12	11	10	12	10	2	9	111
110. Other diseases of the intestines	2	1	3	1	2	3	2	....	1	1	....	....	16
111. Acute yellow atrophy of the liver	....	1	....	1	....	....	....	....	....	....	....	....	2
112. Hydatid tumor of the liver	....	....	....	....	....	....	....	....	....	....	....	....	.....
113. Cirrhosis of the liver	7	6	10	6	6	5	7	8	4	10	3	4	76

114. **Piliary calculi**	1	1	2	2	2	3	....	....	....	1	3	1	16
115. Other diseases of the liver	2	1	1	4	2	2	2	2	5	1	1	3	26
116. Diseases of the spleen	....	....	....	....	....	....	....	....	1	....	....	1	2
117. Simple peritonitis (nonpuerperal)	1	....	1	1	....	....	....	....	....	....	....	1	4
118. Other diseases of the digestive system, cancer and tuberculosis excepted	1	....	....	....	1	....	....	....	....	....	....	1	3
VI—*Nonvenereal Diseases of the Genito-Urinary System and Annexa.*													
119. Acute nephritis	12	8	11	15	13	13	7	9	9	9	14	10	130
120. Bright's disease	74	65	78	66	82	53	63	70	44	48	62	93	798
121. Chyluria	....	....	....	....	....	....	....	....	....	....	2	....	2
122. Other diseases of the kidneys and annexa	2	2	1	3	2	2	3	5	3	4	2	3	32
123. Calculi of the urinary passages	....	2	....	2	....	3	....	....	1	....	....	....	9
124. Diseases of the bladder	2	1	1	2	....	....	1	1	1	2	....	2	13
125. Other diseases of the urethra, urinary abscess, etc.	....	....	....	....	....	....	....	....	....	1	2	....	3
126. Diseases of the prostate	1	2	5	3	2	....	1	5	1	....	6	2	28
127. Nonvenereal diseases of the male genital organs	....	....	....	....	....	1	....	....	....	....	....	....	1
128. Uterine haemorrhage (nonpuerperal)	....	....	....	....	....	....	....	....	....	....	....	....	.....
129. Uterine tumor (noncancerous)	1	2	....	3	3	....	....	....	....	2	1	....	12
130. Other diseases of the uterus	....	....	1	....	2	....	1	....	....	....	....	1	5
131. Cysts and other tumors of the ovary	....	1	....	....	....	1	....	....	2	....	....	1	5
132. Salpingitis and other diseases of the female genitals	....	....	....	1	....	....	2	....	....	....	....	1	4
133. Nonpuerperal diseases of the breast, cancer excepted	....	....	....	....	....	....	....	....	....	....	....	....	.....
VII—*The Puerperal State.*													
134. Accidents of pregnancy	2	2	2	1	1	1	2	....	....	1	2	2	16
135. Puerperal haemorrhage	1	....	2	1	....	....	1	....	2	....	2	2	11

TABLE IX (Continued)—*Number of Deaths from all Causes During the Year* 1914.

DISEASES.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
136. Other accidents of labor	1	....	1	....	1	1	....	1	1	....	....	....	6
137. Puerperal septichaemia	2	2	4	4	3	3	....	7	3	2	5	....	35
138. Puerperal albuminuria and convulsions	....	3	2	....	1	2	....	....	....	2	2	3	15
139. Puerperal phlegmasia, alba dolens, embolus, sudden death	1	....	....	....	....	....	....	....	....	....	....	....	1
140. Following childbirth, not otherwise defined	....	....	....	....	....	....	....	....	....	....	....	....	.....
141. Puerperal diseases of the breast	....	....	....	....	....	....	....	....	....	....	....	....	.....
VIII—*Diseases of the Skin and of the Cellular Tissue.*													
142. Gangrene	1	2	4	....	3	2	2	3	....	6	2	1	26
143. Furuncle	1	3	1	....	1	....	5	3	....	1	1	1	17
144. Acute abscess	....	2	3	2	....	1	3	....	....	....	....	1	12
145. Other diseases of the skin and annexa	....	3	....	....	1	....	1	2	1	....	....	....	8
IX—*Diseases of the Bones and of the Organs of Locomotion.*													
146. Diseases of the bones, tuberculosis excepted	2	....	4	1	1	1	1	1	4	....	1	2	18
147. Diseases of joints, tuberculosis and rheumatism excepted	1	....	....	....	1	....	....	....	....	....	....	2	4
148. Amputations	....	....	....	....	....	....	....	....	....	....	....	....	.....
149. Other diseases of the organs of locomotion	....	....	1	....	....	....	1	....	....	....	....	....	2

X—Malformations.													
150. Congenital malformations (stillbirths not included)	9	2	7	8	2	8	2	10	12	4	12	9	85
XI—Diseases of Early Infancy.													
151. Congenital debility, icterus and sclerema	47	49	45	55	39	41	56	74	54	42	40	37	579
152. Other diseases peculiar to early infancy	14	11	14	11	9	13	15	13	9	11	14	11	145
153. Lack of care	....	....	....	....	....	....	....	1	....	1	1	1	4
XII—Old Age.													
154. Senility	18	17	20	13	17	17	15	9	11	10	11	12	170
XIII—Affections Produced by External Causes.													
155. Suicide by poison	5	3	3	12	5	8	10	4	4	3	3	3	63
156. Suicide by asphyxia	3	1	4	2	2	1	2	1	6	....	4	7	33
157. Suicide by hanging or strangulation	2	....	....	....	1	....	2	1	2	....	1	1	10
158. Suicide by drowning	....	....	....	1	....	....	....	1	....	....	1	....	3
159. Suicide by firearms	5	2	2	3	....	1	2	1	3	3	1	1	24
160. Suicide by cutting or piercing instruments	....	1	1	1	....	....	....	....	....	1	....	....	4
161. Suicide by jumping from a high place	....	....	....	....	....	....	....	....	....	....	1	....	1
162. Suicide by crushing	....	....	....	....	....	....	....	....	....	....	....	....	.....
163. Suicide by other means	....	....	....	....	....	....	....	....	....	....	....	....	.....
164. Poisoning by food	....	7	....	....	....	1	2	1	7	....	....	1	19
165. Other acute poisonings	....	4	....	....	....	2	1	....	1	2	....	....	10
166. Conflagration	....	....	....	....	....	1	....	....	....	....	6	1	8
167. Burns (conflagration excepted)	8	4	6	8	5	6	6	2	2	4	3	7	61
168. Absorption of deleterious gases (conflagration excepted)	7	2	1	1	2	1	....	3	2	4	1	6	30
169. Accidental drowning	2	....	1	2	8	6	12	6	1	2	....	3	46

TABLE IX (Continued)—*Number of Deaths from all Causes During the Year* 1914.

DISEASES.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
170. Traumatism by firearms	1	....	....	....	1	....	1	....	....	1	1	....	5
171. Traumatism by cutting or piercing instruments	....	1	....	....	....	....	1	....	....	....	....	....	2
172. Traumatism by fall	8	2	7	5	10	14	8	8	11	7	9	11	100
173. Traumatism in mines and quarries	....	....	....	....	....	....	....	....	....	....	....	....	.....
174. Traumatism by machines	1	2	....	....	....	....	1	....	1	1	....	....	6
175. Traumatism by other crushing (vehicles, railroad, landslides, etc.)	10	3	12	14	7	4	8	14	8	13	8	7	108
176. Injuries by animals	....	....	....	....	....	1	2	....	1	....	....	....	4
177. Starvation	....	....	....	....	....	....	....	....	....	....	....	....	.....
178. Excessive cold	....	....	....	....	....	....	....	....	....	....	....	....	.....
179. Effects of heat	....	....	....	....	....	5	4	5	....	....	....	....	14
180. Lightning	....	....	....	....	....	....	....	....	....	....	....	....	.....
181. Electricity (lightning excepted)	....	....	....	....	....	....	1	....	....	....	....	....	1
182. Homicide by firearms	....	2	3	2	1	2	1	2	1	4	2	1	21
183. Homicide by cutting or piercing instruments	....	....	2	1	....	....	3	2	1	1	....	....	10
184. Homicide by other means	....	1	3	1	2	....	....	....	4	2	....	....	13
185. Fractures (cause not specified)	....	....	....	....	1	....	....	....	....	....	....	....	1
186. Other external violence	1	....	....	2	2	1	2	3	2	2	....	3	18

XIV—*Ill-Defined Diseases.*													
187. Ill-defined organic disease	....	....	....	....	....	....	....	....	....	....	....	....	.....
188. Sudden death	....	....	....	....	....	....	....	....	....	....	....	....	.....
189. Cause of death not specified or ill-defined	2	2	....	2	1	....	....	....	1	1	....	1	10
Total	989	943	1129	937	865	757	897	845	771	736	802	880	10,551

TABLE X—*Showing Number of Deaths from Tuberculosis, Bronchitis, to Age, Sex*

AGES.	Pulmonary Tuberculosis.					Other forms of Tuberculosis.				
	White.		Colored.			White.		Colored.		
	M.	F.	M.	F.	Total.	M.	F.	M.	F.	Total.
Under three months....	1	....	....	....	1	1	1	1	1	4
Bet. 3 and 12 months...	2	1	3	1	7	7	3	2	2	14
Bet. 1 and 2 yrs.....	2	3	1	3	9	6	4	7	2	19
Bet. 2 and 3 yrs.....	1	....	1	1	3	5	2	....	1	8
Bet. 3 and 4 yrs.....	....	....	1	1	2	4	4	4	....	12
Bet. 4 and 5 yrs.....	....	....	1	1	2	3	1	....	2	6
Total under 5 yrs...	6	4	7	7	24	26	15	14	8	63
Bet. 5 and 9 yrs....	....	3	2	5	10	3	3	7	7	20
Bet. 10 and 14 yrs....	3	....	1	6	10	2	4	2	4	12
Bet. 15 and 19 yrs....	9	26	13	20	68	3	3	5	2	13
Bet. 20 and 24 yrs....	51	45	34	29	159	4	5	1	9	19
Bet. 25 and 29 yrs....	57	42	27	33	159	1	2	3	3	9
Bet. 30 and 34 yrs....	56	28	26	16	126	2	3	4	2	11
Bet. 35 and 39 yrs....	58	32	31	20	141	5	1	1	1	8
Bet. 40 and 44 yrs....	62	27	23	21	133	5	2	6	1	14
Bet. 45 and 49 yrs....	39	14	23	12	88	3	1	2	1	7
Bet. 50 and 54 yrs....	44	11	10	8	73	4	....	2	....	6
Bet. 55 and 59 yrs....	37	16	10	2	65	....	2	....	....	2
Bet. 60 and 64 yrs....	23	13	4	3	43	1	2	2	....	5
Bet. 65 and 69 yrs....	9	6	2	1	18	2	....	1	....	3
Bet. 70 and 74 yrs....	11	4	1	2	18	2	2	....	....	4
Bet. 75 and 79 yrs....	1	5	....	....	6	....	1	....	....	1
Bet. 80 and 84 yrs....	1	2	1	....	4	....	....	....	2	2
Bet. 85 and 89 yrs....	....	....	....	....	.....	....	....	....	....	.....
Bet. 90 and 94 yrs....	....	....	....	....	.....	....	....	....	....	.....
Bet. 95 and 99 yrs....	....	....	....	....	.....	....	....	....	....	.....
Bet. 100 and 104 yrs....	....	....	....	....	.....	....	....	....	....	.....
Bet. 105 and 109 yrs....	....	....	....	....	.....	....	....	....	....	.....
110 yrs.....	....	....	....	....	.....	....	....	....	....	.....
Unknown age.....	....	....	....	....	.....	....	....	....	....	.....
Total.....	467	278	215	185	1,145	63	46	50	40	199

Broncho-Pneumonia and Pneumonia, During the Year 1914, *According and Color.*

Bronchitis.					Broncho-Pneumonia.					Pneumonia.				
White.		Colored.			White.		Colored.			White.		Colored.		
M.	F.	M.	F.	Total.	M.	F.	M.	F.	Total.	M.	F.	M.	F.	Total.
9	9	4	2	24	29	30	14	9	82	6	4	3	4	17
8	8	7	3	26	48	49	18	16	131	10	11	7	10	38
2	3	4	....	9	36	23	22	13	94	16	9	8	6	39
1	2	1	1	5	10	8	3	6	27	5	2	2	2	11
....	2	1	1	4	2	4	5	1	12	4	2	3	1	10
....	1	....	....	1	2	1	2	2	7	....	....	2	1	3
20	25	17	7	69	127	115	64	47	353	41	28	25	24	118
1	....	1	....	2	4	5	4	2	15	4	5	1	1	11
....	1	....	....	1	1	1	1	....	3	1	2	....	1	4
....	....	1	1	2	....	2	1	....	3	7	8	3	5	23
....	....	....	....	.....	2	....	2	2	6	2	7	6	8	23
1	....	3	....	4	3	....	....	1	4	9	3	5	9	26
....	....	1	....	1	2	....	....	1	3	9	8	7	5	29
2	1	3	....	6	3	....	1	3	7	7	10	12	6	35
....	1	....	....	1	1	2	2	2	7	14	2	9	3	28
....	1	1	....	2	5	4	2	2	13	15	10	12	4	41
1	2	....	3	6	5	2	4	2	13	21	6	11	4	42
3	2	1	1	7	5	9	2	1	17	19	9	8	8	44
2	1	1	1	5	7	10	6	1	24	26	18	6	3	53
3	3	....	....	6	7	11	2	1	21	18	15	3	6	42
8	7	....	1	16	12	24	1	2	39	23	14	2	3	42
4	4	1	....	9	7	9	....	2	18	11	18	2	1	32
7	5	....	1	13	2	4	....	2	8	5	9	....	....	19
3	3	....	....	6	3	10	....	....	13	1	8	....	....	13
1	2	....	....	3	2	3	....	1	6	1	1	....	....	2
....	....	....	....	.....	....	....	....	....	.....	....	....	....	....	.....
....	....	....	....	.....	....	....	....	....	.....	....	....	....	....	.....
....	....	....	....	.....	....	....	....	....	.....	....	....	....	....	.....
....	....	....	....	.....	....	....	....	....	.....	....	....	....	....	.....
....	....	....	....	.....	....	....	....	....	.....	....	....	....	....	.....
56	58	30	15	159	198	211	92	72	573	244	181	112	91	628

TABLE XI—*Showing Comparison of Deaths Due to All Causes and Those to Communicable Diseases, from 1875 to 1914, Inclusive.*

YEARS.	Population.	Typhoid Fever.	Measles.	Scarlet Fever.	Whooping Cough.	Diphtheria and Pseudo-Membranous Croup.	Croup.	Dysentery.	Diarrhœa and Enteritis, Under Five Years.*	Children Under Five Years of Age.	Total Mortality from All Causes, Exclusive of Still Births.	Death Rate.	Still Births.	Rate of Still Births to 1,000 Inhabitants.
1875	267,354	187	15	519	78	101	136	38	643	3,429	7,258	22.33	560	1.70
1876	267,354	176	16	562	39	157	92	51	702	3,640	7,498	22.38	588	1.75
1877	311,275	211	151	447	303	424	133	49	614	4,029	7,910	22.60	538	1.53
1878	318,182	176	11	141	63	303	149	41	343	2,882	6,733	18.44	655	1.79
1879	325,139	167	42	367	80	298	186	60	475	3,385	7,618	19.30	620	1.57
1880	332,313	196	12	400	148	293	173	57	503	3,602	8,043	20.41	636	1.61
1881	339,649	197	74	215	93	639	242	56	558	3,919	8,816	22.37	651	1.65
1882	347,142	165	71	179	43	707	222	62	582	3,755	8,923	21.81	677	1.71
1883	354,832	126	130	334	59	591	201	52	608	4,062	9,380	22.93	701	1.71
1884	362,668	151	16	68	63	252	148	43	723	3,643	8,293	20.77	746	1.82
1885	370,696	155	16	68	63	252	148	60	682	3,228	8,153	19.55	650	1.59
1886	378,903	150	201	32	91	190	128	84	704	3,565	8,339	19.98	718	1.72
1887	387,300	156	85	36	98	149	153	137	786	3,477	8,372	19.16	669	1.60
1888	395,899	161	176	44	112	118	98	167	805	3,881	8,936	17.87	694	1.63
1889	404,498	191	11	71	54	155	53	156	994	3,505	8,703	17.40	784	1.84
1890	413,671	247	248	42	100	274	45	212	859	4,117	10,198	22.41	800	1.76
1891	426,917	150	16	128	103	350	44	118	852	3,910	10,073	22.14	811	1.78
1892	440,163	193	120	258	32	381	47	109	1,091	4,443	10,582	23.25	813	1.78
1893	453,409	224	39	36	60	185	25	62	762	3,604	9,554	20.99	770	1.69
1894	466,655	222	3	85	112	198	33	72	793	3,761	9,486	20.84	721	1.58

1895	479,907	173	68	59	68	265	45	70	637	4,026	10,301	20.76	666	1.30
1896	493,147	188	27	31	87	249	32	82	526	3,728	9,919	19.60	678	1.33
1897	506,398	189	16	53	42	347	13	57	830	3,510	9,329	18.43	706	1.39
1898	541,000	189	48	46	64	362	50	82	720	3,939	10,385	19.19	748	1.38
1899	541,000	153	5	24	19	299	13	57	703	3,319	10,152	18.76	706	1.30
1900	509,369	189	24	20	47	267	12	77	848	3,695	10,700	20.50	682	1.34
1901	514,385	141	3	11	63	164	7	49	726	3,391	10,479	19.77	672	1.30
1902	519,401	220	41	37	95	121	9	78	695	3,327	10,253	18.90	659	1.27
1903	524,417	189	77	84	64	152	8	40	550	3,102	10,141	18.60	741	1.41
1904	529,433	199	6	143	24	114	1	54	671	3,155	10,818	19.70	710	1.34
1905	534,449	197	67	33	64	96	6	44	751	3,465	10,695	19.32	814	1.52
1906	539,465	183	14	47	151	111	4	37	623	3,319	10,753	19.12	826	1.53
1907	544,481	230	74	15	17	78	2	48	747	3,333	11,190	19.56	794	1.46
1908	549,497	180	17	70	41	63	1	35	591	2,967	10,435	18.19	811	1.48
1909	554,513	136	54	25	117	74	2	33	562	3,071	10,376	17.73	817	1.47
1910	559,529	235	19	49	83	64	.....	31	598	2,891	10,753	18.33	822	1.47
1911	564,545	154	77	44	48	68	.....	25	568	2,714	10,404	17.54	712	1.26
1912	569,561	136	5	23	34	93	.....	17	501	2,723	10,441	18.33	689	1.28
1913	574,577	135	118	39	41	81	.....	21	558	2,732	10,679	18.58	909	1.58
1914	579,593	130	6	36	90	91	.....	10	564	2,632	10,551	18.20	1,026	1.77

*The figures on diarrhœal diseases in children under five years of age are not complete, for the reason that prior to the year 1882 only those dying of "cholera infantum" were so classified, and from and including the year 1906, to conform with the International System of Classification, only those under two (2) years of age are included.

NOTE—In the above table the item "population," which is estimated, has been changed from and including the year 1900, so as to conform with the figures used by the United States Census Bureau. Previous to the census of 1910 the population for the inter-censal years, from 1900 on, was estimated on the assumption that the same, or more, average increase each year was maintained as was the previous decade; but the census for 1910 showed differently, and, therefore, the estimates of population and the death rate for each year has been adjusted accordingly.

ANNUAL REPORT

OF THE

DIVISION OF BACTERIOLOGY

Report of the Division of Bacteriology.

BALTIMORE, January 1, 1915.

NATHAN R. GORTER, M. D.,
Commissioner of Health.

DEAR SIR:

I hereby respectfully report on the work performed in the Division of Bacteriology of the Sub-Department of Health during the year ending December 31, 1914.

BACTERIOLOGICAL EXAMINATION OF WATER SUPPLY.

During the past year, as heretofore, the drinking water furnished to the city has been treated by means of calcium hypochlorite for the purpose of destroying the various pathogenic intestinal bacteria. The use of aluminum sulphate has also been practiced to bring about a preliminary sedimentation of the grosser particles in the water in order to precipitate a certain percentage of the bacteria and render the use of calcium hypochlorite more effective in the clearer supernatant fluid. The calcium hypochlorite has been added to the water under the direction of Mr. Robert L. Clemmitt, Acting Water Engineer, this being added to the Gunpowder supply at the effluent of Lake Montebello and to the Jones Falls supply at the gate chamber at Lake Roland. The aluminum sulphate has only been added to the water derived from the Gunpowder supply, the material being added at the Montebello influent.

TABLE No. 1—*Record of Available Chlorine in Parts per Million Used in Treating the City Water.*

Loch Raven Supply—	Parts per Million.
January 1*	1.50
May 17	1.75
May 18	2.00
May 22	1.50
May 23	2.00
May 25	1.50
June 21	2.00
June 25	1.50
July 2 (by-passing)	2.00
July 8 (by-passing)	2.50
July 9	2.50
July 11	2.00
July 13	1.50
July 27	2.00
July 28	2.50
July 31	2.00
August 1	2.50
August 3	1.50
August 5	1.75
August 6	2.00
September 2	2.50
September 3	3.00
September 7	2.66
September 9	2.00
September 11	1.75
September 12	1.50
September 18	1.00
September 19	1.66
September 20	2.00
September 21	1.50
September 22	2.20
September 23	2.50

*Each date indicates the day upon which the given amount of available chlorine was used and this same amount continued daily until the next date given. It should be understood, therefore, that calcium hypochlorite was used daily during the entire year.

TABLE No. 1 (Continued)—*Record of Available Chlorine in Parts per Million Used in Treating the City Water.*

	Parts per Million.
Loch Raven Supply—	
September 26	1.50
September 28	2.00
September 30	1.50
October 30	2.50
October 31	1.50
November 2	2.00
November 4	1.50
November 8	2.45
November 12	1.50
December 9-31	2.00
Lake Roland Supply—	
January 1	2.00
June 27	2.25
June 28-Dec. 31	2.50

From the above table it can be seen that the amount of available chlorine per million parts of water used in treating the Gunpowder or Loch Raven supply has varied between a minimum of 1.0 and a maximum of 3.0 parts. The amount used in the majority of cases, however, has varied between 1.5 and 2.0 parts per million, and larger amounts than these have only been added occasionally. During the first half of the year 2.0 parts were used in the Lake Roland supply and during the latter half of the year 2.5 parts were used.

The use of aluminum sulphate has been continued during the year whenever the turbidity of the influent at Lake Montebello rose to 30 or over. This is added in a small mixing chamber at the gate house at Lake Montebello and is mixed with the water as it flows through the gate chamber into a conduit which leads out into the upper portion of the lake. This produces a marked sedimentation of the solid particles in the water and causes a clear water to flow into the effluent

from Lake Montebello at the lower portion of the lake, which then passes through a portion of the gate chamber into the conduit leading into Lake Clifton. The preliminary storage and sedimentation of the water in Lake Montebello therefore offers a better opportunity for the treatment of the water by calcium hypochlorite after sedimentation, and the calcium hypochlorite is added at the gate chamber after the water has passed out of Lake Montebello and is flowing into the conduit leading into Lake Clifton.

During January the average amount of aluminum sulphate added was .679; the minimum was .615 and the maximum was .735. No aluminum sulphate was added during February, March and April, and it was only added on May 31 during this month—the amount being 1.232. During June the average was .877, but the minimum and maximum are not available. During July the average amount of aluminum sulphate was 1.819; the minimum being .721 and the maximum 2.065. During August the average amount was 1.045; the minimum .664 and the maximum 1.935, while during September .672 was added on only one date. In October the average was .764; the minimum .656 and the maximum 1.049. During November the average was .606; the minimum being .365 and the maximum .864, and during December the average from two days' treatment was .846.

No aluminum sulphate was added to the water derived from Lake Roland, owing to the impossibility of adding the alum before the treatment with calcium hypochlorite.

TABLE No. 2—*Loch Raven System.*

MONTHS—WATER.	Number of Examinations.	Average Bacteria per c. c.	Percentage of Bacterial Reduction.	Percentage of Positive Colon Tests.			
				0.01 c. c.	0.1 c. c.	1 c. c.	10 c. c.
January—Raw water	15	14,000	.....	16	66	88	100
January—Storage	26	2	99.9	0	0	0	0
January—City taps	48	27	99.8	....	....	2	2
February—Raw water	18	7,000	.....	21	68	84	100
February—Storage	21	21	99.7	0	0	0	0
February—City taps	15	80	98.9	....	....	0	20
March—Raw water	13	20,000	.....	16	25	83	100
March—Storage	24	29	99.8	0	0	0	0
March—City taps	35	225	98.9	....	....	0	3
April—Raw water	9	5,500	.....	14	14	28	57
April—Storage	20	110	98.0	0	0	0	0
April—City taps	45	3,700	32.7	....	....	0	2
May—Raw water	11	80,000	.....	15	31	69	85
May—Storage	24	1,600	98.0	0	0	4	31
May—City taps	51	12,000	85.0	....	....	4	9
June—Raw water	14	12,000	.....	20	53	80	100
June—Storage	24	2,000	83.3	0	0	4	15
June—City taps	42	55	99.6	....	....	3	17
July—Raw water	13	8,100	.....	29	71	88	100
July—Storage	13	210	97.4	0	0	12	38
July—City taps	27	12	99.9	....	....	7	22
August—Raw water	24	19,500	.....	29	71	87	100
August—Storage	27	1,800	90.8	0	0	11	29
August—City taps	30	75	99.6	....	....	3	13
September—Raw water	15	4,500	.....	5	44	78	100
September—Storage	15	500	88.9	0	0	13	39
September—City taps	23	70	98.5	....	....	0	17
October—Raw water	23	7,900	.....	17	79	100	100
October—Storage	22	1,000	87.3	0	0	8	35
October—City taps	33	50	99.4	....	....	3	15
November—Raw water	14	175,000	.....	13	27	60	93
November—Storage	13	400	99.8	0	0	4	9
November—City taps	30	60	99.9	....	....	0	14
December—Raw water	13	350,000	.....	33	67	78	100
December—Storage	18	275	99.9	0	0	0	11
December—City taps	12	2,000	99.4	....	....	0	0

TABLE No. 3—*Lake Roland System.*

MONTHS—WATER.	Number of Examinations.	Average Bacteria per c. c.	Percentage of Bacterial Reduction.	Percentage of Positive Colon Tests.			
				0.01 c. c.	0.1 c. c.	1 c. c.	10 c. c.
January—Raw water	25	90,000	.....	12	64	100	100
January—Storage	25	1,400	98.5	0	0	0	12
January—City taps	47	50	99.9	....	....	0	0
February—Raw water	21	25,000	.....	0	13	56	91
February—Storage	20	3,900	84.4	0	0	4	30
February—City taps	15	85	99.7	....	....	0	13
March—Raw water	22	4,400	.....	0	4	35	81
March—Storage	22	3,600	18.2	0	0	0	4
March—City taps	36	1,000	77.3	....	....	0	0
April—Raw water	19	5,500	.....	0	0	14	76
April—Storage	22	2,100	61.8	0	0	0	9
April—City taps	45	4,500	18.2	....	....	0	2
May—Raw water	17	21,000	.....	6	23	53	88
May—Storage	25	11,000	47.6	0	0	4	24
May—City taps	51	12,500	40.5	....	....	2	11
June—Raw water	25	14,000	.....	0	16	40	68
June—Storage	25	1,200	91.4	0	0	24	36
June—City taps	42	70	99.5	....	....	3	14
July—Raw water	20	20,000	.....	20	48	84	100
July—Storage	22	650	96.8	0	0	27	50
July—City taps	26	50	99.8	....	....	0	26
August—Raw water	13	99,000	.....	25	75	95	100
August—Storage	14	1,100	98.9	0	5	40	65
August—City taps	28	950	99.1	....	....	0	11
September—Raw water	19	25,500	.....	20	60	90	100
September—Storage	20	2,800	89.0	0	24	48	67
September—City taps	24	125	99.5	....	....	0	0
October—Raw water	24	4,200	.....	24	48	68	100
October—Storage	25	650	84.5	15	59	74	96
October—City taps	32	50	98.8	....	....	3	6
November—Raw water	20	16,000	.....	4	40	67	92
November—Storage	17	1,700	89.4	0	33	37	62
November—City taps	30	65	99.6	....	....	0	13
December—Raw water	23	29,000	.....	9	56	96	100
December—Storage	24	3,800	86.9	0	0	0	56
December—City taps	12	7,800	73.1	....	....	0	0

Bacterial Reduction Effected by the Treatment of the Drinking Water.

Tables Nos. 2 and 3, which precede, indicate that there are two distinct supplies of drinking water for the city, but this is not strictly correct. As stated on page 543 of the annual report for 1913, the Gunpowder water derived from Loch Raven furnishes the city with 69.2 per cent. of the total amount of water, and 28.5 per cent. of the water consists of a mixture of the Gunpowder water from Loch Raven and Jones Falls water from Lake Roland; 2.2 per cent. is pure, unmixed Jones Falls water. Of the mixed Gunpowder and Jones Falls water 38.1 per cent. consists of Gunpowder water and 61.9 per cent. consists of Jones Falls water. The table, therefore, referring to the taps from the so-called Lake Roland system gives the data from the wards either supplied by this mixture of Gunpowder and Jones Falls water or from the 2.2 per cent. of unmixed Jones Falls water supplied to the Upper Service. These figures are taken from the table furnished in last year's report.

The results of sedimentation by means of aluminum sulphate and disinfection by means of calcium hypochlorite of the Gunpowder supply and of disinfection by means of calcium hypochlorite of the Jones Falls supply are shown in Tables Nos. 2 and 3 by monthly averages, which give the comparative reduction in the storage reservoirs and city taps as compared to the raw, untreated water in Loch Raven and Lake Roland.

An examination of Table No. 2 shows that the untreated water in the impounding reservoir known as Loch Raven shows a very high bacterial average as compared with the sedimented and treated water. The averages for the storage reservoirs for the various months of the year show a marked reduction in the bacteria, both during the months when aluminum sulphate was used and when this chemical was not used. The bacterial reduction in the water from the taps is also

shown in the table and is usually very satisfactory. During the months of April, May and December there is an increase of the bacteria from the tap water as compared to the water in the storage reservoirs. This is probably due to the condition known as after-growths, which consist in the development of large numbers of resistant, spore-bearing organisms. These bacteria, however, take no part in the production of the water-borne diseases and are, therefore, harmless in their nature. The bacterial reduction in the city taps, with the exception of the after-growths, approximates the results obtained from the various processes of water filtration.

The percentage of positive colon tests for the storage water and that from the city taps as compared to the raw, untreated water shows a marked contrast. The tests from the raw water show a large percentage of positive tests in 0.01, 0.1, 1 and 10 cubic centimeters, whilst the water from the storage reservoirs and the city taps shows either an entire absence or a small percentage of positive tests even in 1 cubic centimeter of water. There was not entire freedom of colon bacilli, however, from 10 cubic centimeters, since at times fairly large percentages of positive tests are shown both from the storage reservoirs and the city taps.

An examination of Table No. 3 for the Lake Roland system shows a very high bacterial average in almost all of the months of the year for the raw, untreated water. The bacterial reduction in the water from the storage reservoirs and city taps is variable and the results of the treatment of this portion of the water supply cannot be considered as perfectly satisfactory. This is probably owing to the fact that no preliminary sedimentation by alum can be carried out and we have been compelled to depend entirely upon the use of calcium hypochlorite for the purification of this water.

The percentage of positive B. coli tests in the raw water shows a number of high percentages both in 0.01 and 0.1 of a cubic centimeter, but the colon bacillus appears only in the stor-

age reservoirs in 0.1 of a cubic centimeter. Its percentage is variable in 0.1, 1 and 10 cubic centimeters, but in the water from the city taps it is practically absent even in 1 cubic centimeter of water and only appears in variable and usually small percentages in 10 cubic centimeters.

It has been somewhat unfortunate that it has been necessary to mix the Jones Falls water with the water supplied from the Gunpowder system, since the results in the disinfection of the latter supply have been far more satisfactory.

The figures for the raw water and the storage water found in Tables Nos. 2 and 3 have been kindly furnished by Mr. J. Bosley Thomas, director of the laboratory of the Water Department.

TABLE No. 4—*Typhoid Fever in Baltimore, January, 1906, to December, 1914, Showing Decrease in Morbidity and Mortality Since the Use of Hypochlorite of Calcium.*

MONTHS.	1906.		1907.		1908.		1909.		1910.		1911.		1912.		1913.		1914.		Average of Five Years, 1906-1910.	
	Case Incidence.	Deaths.	Case Incidence.	Deaths.	Case Incidence.	Deaths.	Case Incidence.	Deaths.	Case Incidence.	Deaths.	Case Incidence.	Deaths.	Case Incidence.	Deaths.	Case Incidence.	Deaths.	Case Incidence.	Deaths.	Case Incidence.	Deaths.
January.....	31	12	43	12	47	7	39	16	40	7	55	11	47	9	53	8	19	10	40	10.8
February.....	31	6	16	5	26	9	23	3	25	11	31	3	28	7	40	14	12	7	24	6.8
March.....	25	6	37	6	36	3	20	5	30	12	35	5	33	11	38	8	13	3	29	6.4
April.....	67	11	35	17	24	2	22	4	22	4	44	8	37	10	17	3	10	6	36	11.2
May.....	143	12	65	3	40	3	23	5	31	2	56	7	30	3	31	6	31	4	60	5.0
June.....	87	5	41	6	47	3	41	6	46	8	34	8	57	3	51	9	45	15	52	4.2
July.....	105	14	78	22	149	24	107	11	110	7	89	4	98	15	148	15	70	8	110	15.6
August.....	284	34	217	23	339	35	217	20	473	30	280	22	198	22	314	22	134	9	306	28.4
September...	206	32	469	41	364	29	312	24	398	49	241	31	212	18	233	20	130	18	349	35.0
October.....	125	26	241	47	187	30	138	23	359	42	170	28	190	12	129	18	132	22	210	33.6
November....	59	15	87	31	99	25	61	10	251	37	104	19	77	9	65	8	97	18	111	23.6
December....	46	10	91	17	68	10	66	9	106	26	62	8	76	17	44	5	64	10	75	14.4
Total..	1,209	183	1,420	230	1,426	180	1,069	136	1,891	235	1,201	154	1,083	136	1,163	136	757	130	1,403	192.8

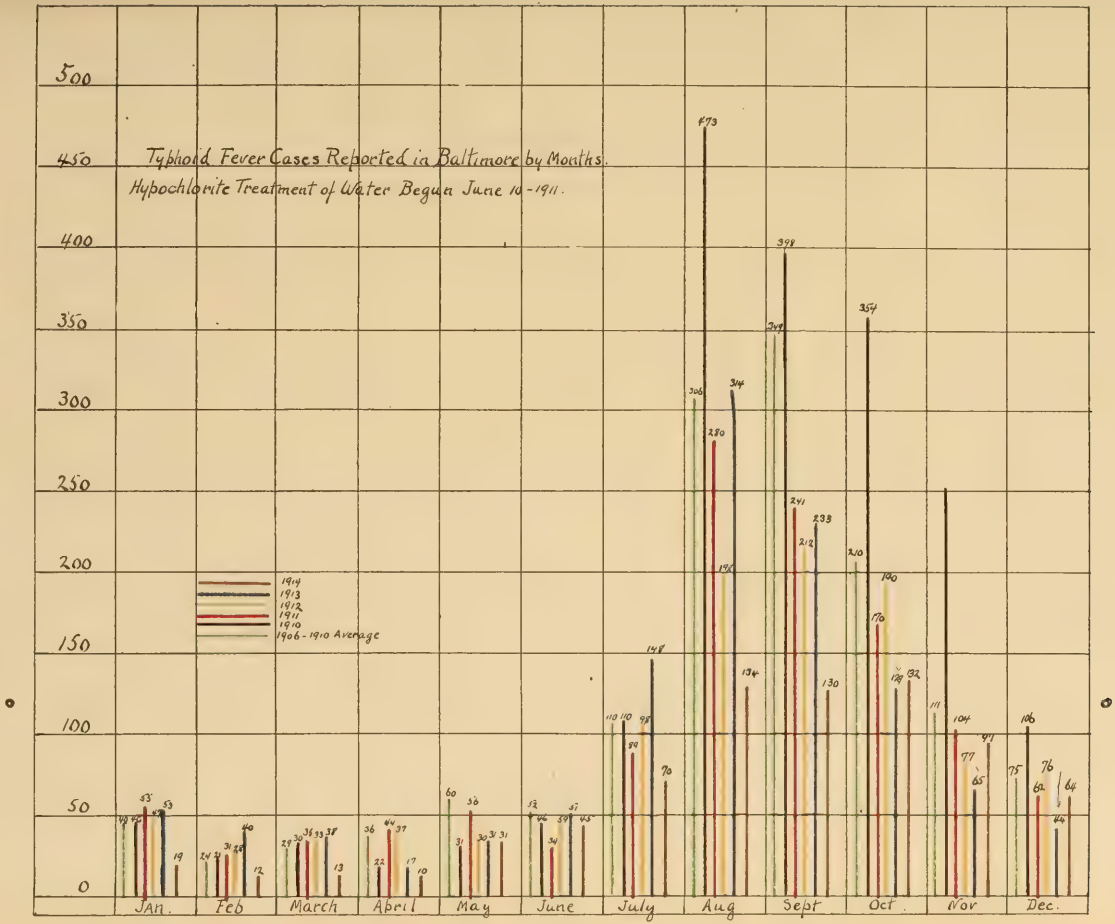

Typhoid Fever Cases Reported in Baltimore by Months.
Hypochlorite Treatment of Water Begun June 10 - 1911.
500
450
400
350
300
250
200
150
100
50
0
1914
1913
1912
1911
1910
1906 - 1910 Average
Jan.
Feb
March
April
May
June
July
Aug
Sept
Oct
Nov
Dec.

CHART NO. 1.

Reduction in Typhoid Morbidity and Mortality.

The above table (No. 4) shows the cases and deaths of typhoid fever from 1906 to date and the gradual tendency towards an increase of typhoid fever which ended in the outbreak of 1910 can be seen upon examining this table. About the first of June, 1911, we began to use calcium hypochlorite for disinfecting the drinking water, and this table shows that the cases and deaths of typhoid fever have been gradually reduced up to the present time, with the exception of the months of July, August and September of 1913. When the amount of available chlorine was increased about the middle of September from 1.5 to 2.0 parts per million parts of water the number of typhoid cases rapidly decreased. The results for 1914 are particularly gratifying, since there were only 757 cases and 130 deaths; these numbers being much lower than any other yearly total found in the table. This result is probably due to the fact that especially during the summer and fall amounts of available chlorine varying between 1.5 and 2.5 were used.

Chart No. 1 shows the number of reported typhoid cases for the years from 1910 to 1914, inclusive, and it also indicates the average number of cases for the years 1906 to 1910, inclusive. The legend shows the colors, which represent the various years and the number of typhoid cases as shown by the height of the various columns in the chart; the actual numbers being placed at the tops of these columns.

The use of calcium hypochlorite in treating the city water was begun in June, 1911. On comparing the green line representing the average number of typhoid cases for the five years previous to the year when hypochlorite was used with the various lines indicating the years 1911, 1912, 1913 and 1914 it can be seen that the number of typhoid cases month by month during these latter years was less than the average for the five preceding years, although the population has steadily increased. During the months of July, August and September

of 1913, however, there was a decided increase in the number of typhoid cases. On September 18 the hypochlorite for the Gunpowder supply was increased to 2.0 parts of available chlorine per million parts of water, and it can be seen that in October, November and December there was a marked drop in the number of cases.

This chart also shows the decided outbreak of typhoid fever in July, August, September, October, November and December, 1910; the numbers for the various months being indicated by the black line. In 1911 the number of cases for the first five months of the year showed an increase, even over the cases during these months for 1910. In June, 1911, as mentioned above, the use of hypochlorite was instituted in the treatment of the Baltimore drinking water, and the marked contrast between the cases for 1910 and 1911 for the rest of the months of the year is clearly indicated by the black and red lines.

Chart No. 2 shows the number of typhoid cases reported for the various months of each year since 1910 and also the average number of cases reported month by month from 1906 to 1910, inclusive. The large number of cases during the summer months of 1910 is clearly indicated and the decrease in the number of reported cases since the use of calcium hypochlorite in 1911 is also shown. There is but one break in this result, however, since some of the columns for 1913 are higher than those for the other hypochlorite years. This is due to the failure to use enough hypochlorite during July, August and September, since only 1.0 part of chlorine per million parts of water were used during June, July and half of August, and 1.5 parts were used for the rest of August and the first half or September. When 2.0 parts of chlorine were used the outbreak abruptly ceased. This chart shows in a graphic manner the large number of typhoid cases for the five years preceding the use of hypochlorite and also the epidemic of typhoid fever during the latter half of 1910. The

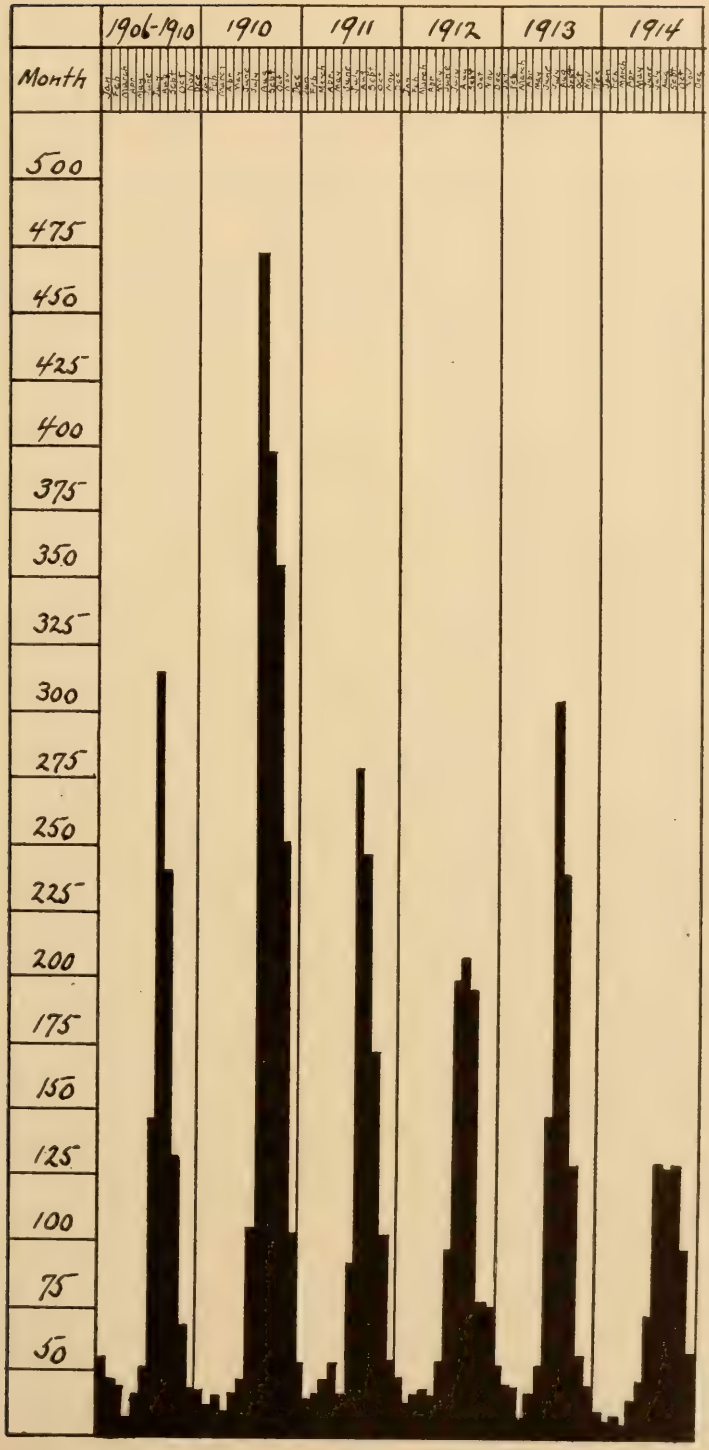


CHART NO. 2—Typhoid cases by months.

tendency towards a gradual reduction of typhoid fever, beginning with 1911, is also indicated, but the chart is somewhat marred by the increased number of typhoid fever cases during the summer months of 1913.

Chart No. 3 shows the total yearly number of deaths from typhoid fever since 1890, and the columns from 1890 to 1910 are usually in marked contrast to the hypochlorite years, from 1911 to 1914, inclusive. There is an occasional column in the pre-hypochlorite years which is as low or lower than some of the columns indicating the years in which hypochlorite was used. The majority of the columns, however, show a much larger number of deaths from typhoid fever in the years previous to the years of hypochlorite than in those years in which calcium hypochlorite has been used for disinfecting the city drinking water. This fact becomes even more striking when we consider that the population has increased since 1890 from 435,290 to 579,593 persons.

Chart No. 4 shows the death rate from typhoid fever per 100,000 inhabitants since 1890 and is, of course, the most correct method of estimating the prevalence of the disease in the community, since we have no way of being sure that all of the typhoid fever cases are reported. These typhoid death rates are quite variable for the various years preceding 1911, but most of these rates are much higher for the pre-hypochlorite years than for the hypochlorite years of 1911 to 1914, inclusive. This chart certainly shows that a marked improvement has been made upon the typhoid fever death rate during these latter years and the relation between the use of the proper amount of hypochlorite and the drop in the number of cases and deaths of this disease shows that the disinfection of the drinking water has had much to do with the reduction of the number of typhoid cases and deaths.

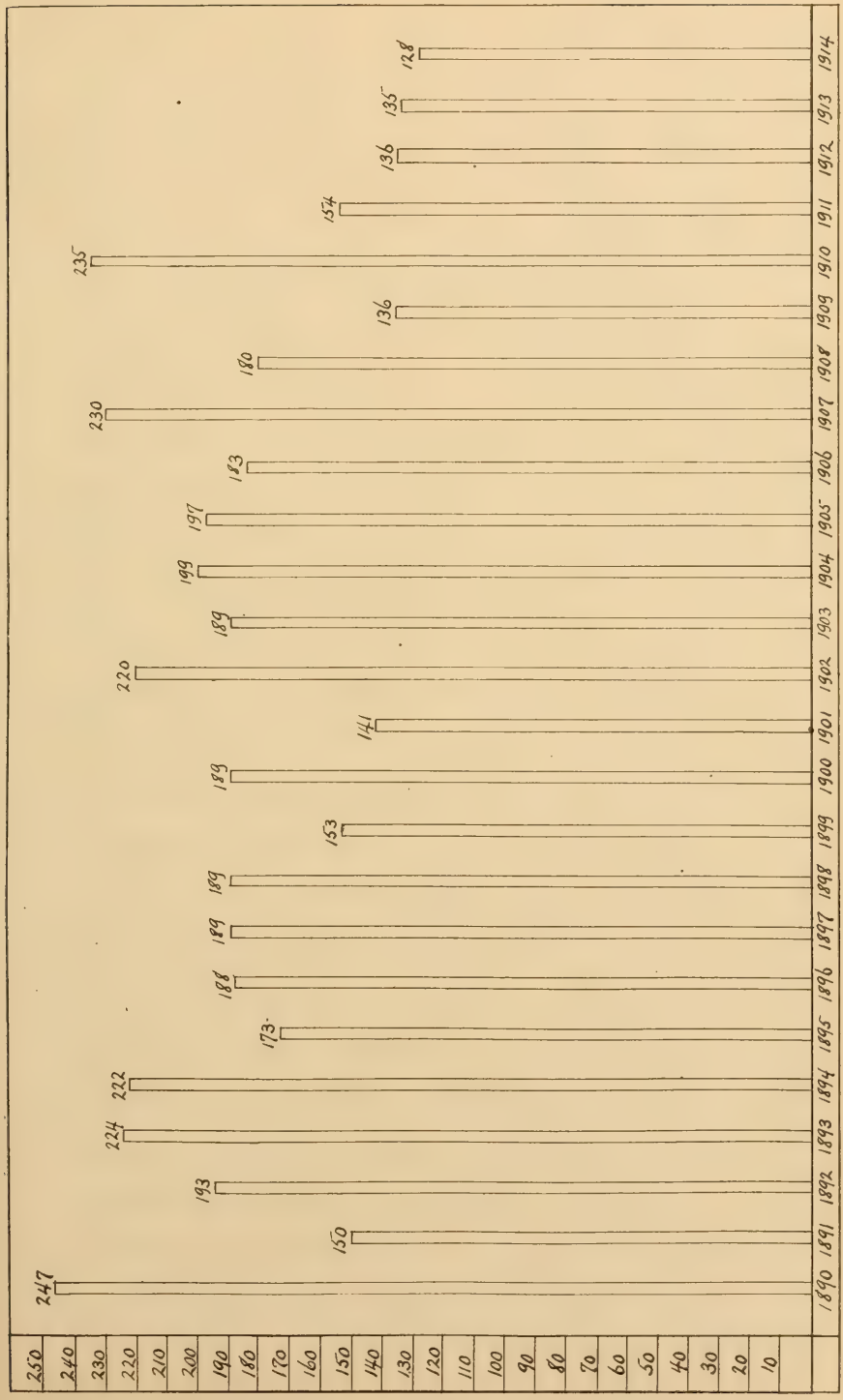


CHART No. 3—Deaths from typhoid by years.

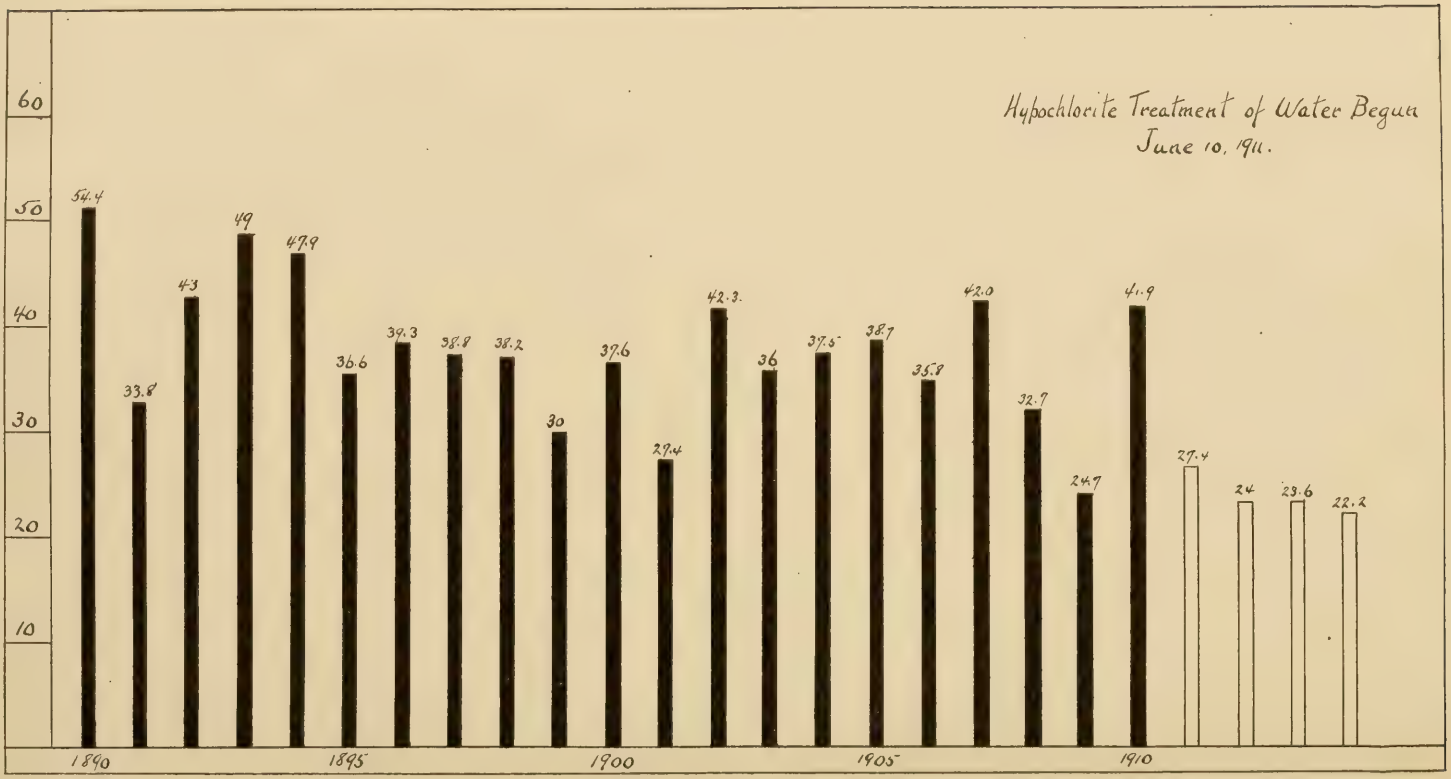


CHART No. 4—Typhoid death rate per 100,000 population.

Examination of Wells, Springs, Table Waters and Other Miscellaneous Specimens.

During the year we have made 183 examinations of specimens of water from the wells, springs, table waters, filters, special tap waters, swimming pools and other miscellaneous specimens. These have been reported to the Assistant Commissioner of Health, and, whenever possible, the appropriate remedies have been adopted.

Bacteriological Examination of Milk.

During the past year we made 16,189 bacteriological examinations of milk, these examinations usually consisting in the bacterial enumeration of the organisms present per cubic centimeter. This is nearly double the number of examinations made during 1913, when 8,916 specimens were examined. Of these 6,481 were collected at the various railroad stations, 1,182 from wagons, 1,035 from shops, 634 from lunchrooms, 638 from specimens obtained at the plant before pasteurization, 643 from specimens obtained at the plant after pasteurization, 980 original package samples of pasteurized milk collected from the wagons on the street, 121 examinations of specimens obtained during the annual milk-shippers' contest and 4,475 specimens of a miscellaneous nature, such as examination of milk from individual cows; examination of pasteurized milk at different stages of pasteurization, examination of milk for typhoid and paratyphoid bacilli, examination of milk for the colon bacillus as a means for determining the time of contamination, examination of milk for the cause of disagreeable odors or tastes, milk from Sydenham Hospital, and milk from which no counts were obtained owing to contamination or other causes.

TABLE No. 5—*Comparison by Months of the Milk Collected from*

BACTERIAL COUNT.	Rating Figure.	Jan.		Feb.		Mar.		April.		May.	
		No. of Examinations.	Product.	No. of Examinations.	Product.	No. of Examinations.	Product.	No. of Examinations.	Product.	No. of Examinations.	Product.
Under 10,000....	100	36	3,600	63	6,300	132	13,200	28	2,800	10	1,000
10,000- 50,000...	90	107	9,630	173	15,570	317	28,530	160	14,400	63	5,670
50,000-100,000...	75	67	5,025	85	6,375	141	10,575	83	6,225	42	3,150
100,000-250,000...	50	70	3,500	69	3,450	130	6,500	153	7,650	74	3,700
250,000-500,000...	20	33	660	32	640	69	1,380	125	2,500	66	1,320
500,000-1,000,000..	10	35	350	24	240	46	460	66	660	54	540
Over 1,000,000...	0	38	0	12	0	75	0	160	0	192	0
Total.....	...	386	22,765	458	32,575	910	60,645	775	34,235	501	15,380
Bacterial index..	...	....	59.0	....	71.1	....	66.6	....	44.2	....	30.7

Stations During 1914 *(Bacterial Index Computed by Levy Method).*

June.		July.		Aug.		Sept.		Oct.		Nov.		Dec.	
No. of Examinations.	Product.	No. of Examinations.	Product.	No. of Examinations.	Product.	No. of Examinations.	Product.	No. of Examinations.	Product.	No. of Examinations.	Product.	No. of Examinations.	Product.
8	800	2	200	2	200	10	1,000	11	1,100	62	6,200	73	7,300
32	2,880	13	1,170	14	1,260	19	1,710	53	4,770	225	20,250	276	24,840
37	2,775	15	1,125	7	525	24	1,800	51	3,825	136	10,220	165	12,375
80	4,000	24	1,200	8	400	42	2,100	94	4,700	79	3,950	67	3,350
95	1,900	27	540	15	300	33	660	105	2,100	73	1,460	85	1,700
66	660	26	260	10	100	39	390	88	880	29	290	46	460
310	0	158	0	63	0	107	0	276	0	94	0	77	0
628	13,015	265	4,495	119	2,785	274	7,660	678	17,375	698	42,350	789	50,025
...	20.9	....	17.0	....	23.4	....	27.9	....	25.7	....	60.7	....	63.4

The above table (No. 5) shows the comparison by months of the milk collected from the railroad stations during 1914. This comparison is expressed by means of the Levy bacterial index, which is described in the report of the Commission for National Milk Standards in Public Health Report No. 78, issued by the United States Public Health Service. This system shows the number of specimens during the various months which were between the limits of the various bacterial counts stated in the table. The bacterial index for each month is also stated and it can be seen that this is higher as a rule in the cooler months and lower for the summer months. A high index expresses a better quality of milk, since this index is produced by low bacterial counts.

TABLE No. 6—*Comparison by Months of the Milk Collected from*

BACTERIAL COUNT.	Rating Figure.	Jan.		Feb.		Mar.		April.		May.	
		No. of Examinations.	Product.	No. of Examinations.	Product.	No. of Examinations.	Product.	No. of Examinations.	Product.	No. of Examinations.	Product.
Under 10,000....	100	0	0	0	0	22	2,200	1	100	1	100
10,000- 50,000...	90	5	450	6	540	17	1,530	5	450	3	270
50,000-100,000...	75	5	375	8	600	23	1,725	4	300	0	0
100,000-250,000...	50	9	450	17	850	42	2,100	10	500	5	250
250,000-500,000...	20	11	220	19	380	33	660	21	420	12	240
500,000-1,000,000..	10	9	90	9	90	20	200	24	240	6	60
Over 1,000,000...	0	27	0	12	0	55	0	97	0	53	0
Total.....	....	66	1,585	71	2,460	212	8,410	162	2,010	80	920
Bacterial index..	....	....	24.0	....	34.6	....	39.7	....	12.4	....	11.5

Wagons During 1914 *(Bacterial Index Computed by Levy Method).*

June.		July.		Aug.		Sept.		Oct.		Nov.		Dec.	
No. of Examinations.	Product.	No. of Examinations.	Product.	No. of Examinations.	Product.	No. of Examinations.	Product.	No. of Examinations.	Product.	No. of Examinations.	Product.	No. of Examinations.	Product.
0	0	0	0	0	0	1	100	0	0	5	500	9	900
2	180	0	0	2	180	2	180	4	360	16	1,440	22	1,980
0	0	0	0	1	75	2	150	8	600	12	900	20	1,500
6	300	0	0	0	0	5	250	20	1,000	38	1,900	35	1,750
7	140	2	40	0	0	5	100	22	440	19	380	28	560
6	60	0	0	1	10	9	90	11	110	12	120	8	80
31	0	5	0	16	0	43	0	93	0	36	0	27	0
52	680	7	40	20	265	67	870	158	2,510	138	4,240	149	6,770
....	13.1	....	5.7	....	13.3	....	13.0	....	15.9	....	30.7	....	45.4

The above table (No. 6) shows a comparison by months of the market milk collected from wagons during 1914. When this table is compared to Table No. 5 a deterioration in the milk after leaving the station can be noted, since the bacterial index is lower for the various months in Table No. 6 than it is for the corresponding months in Table No. 5, which shows the milk obtained at the stations at an earlier period of its route from the farmer to the consumer.

TABLE No. 7—*Comparison by Months of the Milk Collected from*

BACTERIAL COUNT.	Rating Figure.	Jan.		Feb.		Mar.		April.		May.	
		No. of Examinations.	Product.	No. of Examinations.	Product.	No. of Examinations.	Product.	No. of Examinations.	Product.	No. of Examinations.	Product.
Under 10,000....	100	0	0	1	100	22	2,200	2	200	0	0
10,000- 50,000...	90	1	90	17	1,530	8	720	1	90	0	0
50,000-100,000...	75	2	150	28	2,100	10	750	4	300	5	375
100,000-250,000...	50	4	200	33	1,650	15	750	11	550	5	250
250,000-500,000...	20	4	80	27	540	11	220	16	320	11	220
500,000-1,000,000..	10	10	100	16	160	8	80	15	150	11	110
Over 1,000,000...	0	34	0	48	0	9	0	135	0	90	0
Total.....	....	55	620	170	6,080	83	4,720	184	1,610	122	955
Bacterial index.	....	....	11.3	....	35.8	....	56.9	....	8.8	....	7.8

Shops During 1914 *(Bacterial Index Computed by Levy Method).*

June.		July.		Aug.		Sept.		Oct.		Nov.		Dec.	
No. of Examinations.	Product.	No. of Examinations.	Product.	No. of Examinations.	Product.	No. of Examinations.	Product.	No. of Examinations.	Product.	No. of Examinations.	Product.	No. of Examinations.	Product.
0	0	0	0	2	200	2	200	2	200	0	0	3	300
3	270	0	0	0	0	1	90	0	0	6	540	8	720
0	0	0	0	3	225	2	150	2	150	4	300	8	600
3	150	2	100	4	200	1	50	3	150	4	200	6	300
7	140	2	40	3	60	4	80	10	200	5	100	5	100
4	40	0	0	4	40	5	50	10	100	5	50	2	20
82	0	27	0	32	0	57	0	67	0	6	0	15	0
99	600	31	140	48	725	72	620	94	800	30	1,190	47	2,040
....	6.1	....	4.5	....	15.1	....	8.6	....	8.5	....	39.7	....	43.4

The above table (No. 7) shows the comparison by months of the milk collected from the shops during 1914, and as a rule there is a slightly increased deterioration in the character of the milk as compared with that obtained from the wagons. Some of the months, however, show a slightly higher figure for the shops than for the wagons, and there is no other material difference between the character of these two classes of milk.

TABLE No. 8—*Comparison by Months of the Milk Collected from*

BACTERIAL COUNT.	Rating Figure.	Jan.		Feb.		Mar.		April.		May.	
		No. of Examinations.	Product.	No. of Examinations.	Product.	No. of Examinations.	Product.	No. of Examinations.	Product.	No. of Examinations.	Product.
Under 10,000....	100	0	0	0	0	15	1,500	6	600	1	100
10,000- 50,000...	90	0	0	14	1,260	17	1,530	9	810	4	360
50,000-100,000...	75	0	0	15	1,125	16	1,200	8	600	3	225
100,000-250,000...	50	1	50	20	1,000	27	1,350	12	600	9	450
250,000-500,000...	20	1	20	15	300	27	540	10	200	3	60
500,000-1,000,000..	10	0	0	6	60	17	170	5	50	2	20
Over 1,000,000...	0	8	0	25	0	69	0	73	0	21	0
Total.....		10	70	95	3,745	188	6,290	123	2,860	43	1,215
Bacterial index.....		....	7.0	....	39.4	....	33.4	....	23.3	....	28.2

Lunchrooms During 1914 *(Bacterial Index Computed by Levy Method).*

June.		July.		Aug.		Sept.		Oct.		Nov.		Dec.	
No. of Examinations.	Product.	No. of Examinations.	Product.	No. of Examinations.	Product.	No. of Examinations.	Product.	No. of Examinations.	Product.	No. of Examinations.	Product.	No. of Examinations.	Product.
0	0	1	100	0	0	0	0	0	0				
0	0	0	0	2	180	1	90	0	0				
0	0	1	75	2	150	0	0	1	75				
1	50	0	0	2	100	4	200	1	50				
1	20	1	20	6	120	0	0	5	100	No lunchroom samples examined during November and December.			
2	20	0	0	3	30	6	60	2	20				
31	0	3	0	33	0	37	0	29	0				
35	90	6	195	48	580	48	350	38	245				
....	2.6	....	32.5	....	12.1	....	7.3	....	6.4				

The above table (No. 8) shows quite variable results for the milk obtained from the lunchrooms. In some months the bacterial index is very low, showing decidedly poor milk, and in other months it is higher, approaching in its quality the character of the milk obtained from the wagons during similar months.

When one compares these four tables it is seen that the milk as it arrives at the railroad station is of a better quality, containing smaller numbers of bacteria than that obtained either from the wagons or from the shops, dairies and lunchrooms. The milk upon the wagons is usually of a better character than that obtained from the shops and lunchrooms, but there are some exceptions to this condition, as the results are somewhat variable.

TABLE No. 9—*Contest of Shippers, October 27 to November 13, Inclusive.*

BACTERIAL COUNT.	Rating Figure.	No. of Examinations.	Product.
Under 10,000	100	72	7,200
10,000-50,000	90	29	2,610
50,000-100,000	75	7	525
100,000-250,000	50	8	400
250,000-500,000	20	2	40
500,000-1,000,000	10	2	20
Over 1,000,000	0	1	0
Total	.....	121	10,795
Bacterial index	.....	.....	89.2

The above table (No. 9) shows the character of the milk obtained during the milk contest held by the Maryland State Dairymen's Association from October 27 to November 13, inclusive. This table, with its very high bacterial index, indicating milk of a low bacterial count, shows that much purer milk can be obtained when sufficient care is taken in its handling. The large number of specimens under 500,000 bacteria per cubic centimeter shows that if the farmer will exert sufficient care this result can be obtained under ordinary conditions.

TABLE No. 10—*Yearly Rating of Various Classes of Milk.*

BACTERIAL COUNT.	Rating Figure.	Stations.		Wagons.		Shops.		Lunch-rooms.	
		No. of Examinations.	Product.	No. of Examinations.	Product.	No. of Examinations.	Product.	No. of Examinations.	Product.
Under 10,000.....	100	437	43,700	39	3,900	34	3,400	23	2,300
10,000-50,000.....	90	1,452	130,680	84	7,560	45	4,050	47	4,230
50,000-100,000.....	75	853	63,965	83	6,225	68	5,100	46	3,450
100,000-250,000.....	50	890	44,500	187	9,350	91	4,550	77	3,850
250,000-500,000.....	20	758	15,160	179	3,580	105	2,100	69	1,380
500,000-1,000,000....	10	529	5,290	115	1,150	90	900	43	430
Over 1,000,000.....	0	1,562	0	495	0	602	0	329	0
Total.....	...	6,481	303,295	1,182	31,765	1,035	20,100	634	15,640
Bacterial index....	...	.....	46.8	.....	26.9	.....	19.4	...	24.7

The above table (No. 10) shows the Levy bacterial index for the entire year for the milk obtained from stations, wagons, shops and lunchrooms. The yearly bacterial index shows a deterioration in the character of the milk obtained from the wagons and shops as compared to the station milk, and although the index of the lunchroom milk is slightly higher than that of the shop milk, yet it is slightly lower than that of the milk obtained from the wagons.

TABLE No. 11—*Comparison of Average Yearly Bacterial Counts of 1914 with Former Years, also Showing the Levy Bacterial Index.*

CLASS.	1911.	1912.		1913.		1914.	
	Average Bacterial Count.	Average Bacterial Count.	Bacterial Index.	Average Bacterial Count.	Bacterial Index.	Average Bacterial Count.	Bacterial Index.
Stations	2,444,012	2,557,500	24.0	1,070,100	50.9	1,872,547	46.8
Wagons	3,947,892	7,713,500	8.7	3,385,100	21.7	4,407,047	26.9
Shops	.....	6,963,200	13.1	7,780,800	13.5	6,143,821	19.4
Lunchrooms..	.....	.....	.....	5,932,600	13.7	7,390,648	24.7

Table No. 11 shows a comparison between the yearly average and bacterial index of milk obtained from the stations, wagons, shops and lunchrooms since 1913 and between some of these other sources since 1911. The general tendency is towards an improvement in the character of the milk year by year. This fact is shown by the higher bacterial index for each consecutive year. The stations for 1914 show an exception to this general tendency, but this may be due to the much larger number of milk samples examined and the difference is slight. This table also shows the deterioration in the quality of the milk as it progresses from the stations through the wagons to the shops and lunchrooms.

TABLE No. 12—*Comparison Between the Various Samples of Milk Obtained from Pasteurizing Plants or from Samples as Dispensed to Consumers.*

DAIRY.	Samples Obtained from Pasteurizing Plants.									Samples as Dispensed to Consumers.					
	Raw.			Pasteurized.			B. Coli.			Pasteurized.			B. Coli.		
	No. of Examinations.	Levy Average.	Equivalent Bacterial Count.	No. of Examinations.	Levy Average.	Equivalent Bacterial Count.	No. of Examinations.	No. of Positive Tests.	Per Cent. Positive Tests.	No. of Examinations.	Levy Average.	Equivalent Bacterial Count.	No. of Examinations.	No. of Positive Tests.	Per Cent. Positive Tests.
No. 1	18	86.8	750,000	20	30.6	18,000	20	8	40.0	33	31.6	100,000	36	34	91.9
No. 3	33	115.3	1,330,000	34	25.3	64,000	35	12	34.3	30	39.3	154,000	31	12	38.7
No. 4	36	130.7	1,700,000	36	17.6	31,000	35	11	31.4	27	92.3	855,000	28	21	75.0
No. 5	18	112.5	1,260,000	18	30.1	90,000	18	9	50.0	13	30.7	94,000	14	5	35.7
No. 7	38	176.1	3,100,000	38	28.4	81,000	37	13	35.1	46	63.6	405,000	48	33	68.7
No. 8	12	177.2	3,140,000	13	45.3	20,000	13	8	61.5	16	51.9	270,000	16	12	75.0
No. 9	16	167.9	2,820,000	17	14.5	21,000	16	1	6.2	.....	.....	.....	.....	.....	.....
No. 10	35	139.8	1,960,000	37	20.0	40,000	37	21	56.7	79	31.1	97,000	84	47	56.0
No. 11	17	164.9	2,720,000	17	19.5	38,000	17	7	41.2	18	56.2	316,000	19	12	63.2
No. 12	.....	.....	.....	.....	.....	.....	.....	.....	.....	6	98.8	980,000	6	6	100.0
No. 13	31	101.0	1,020,000	32	18.2	33,000	31	6	19.3	27	23.4	54,000	29	11	37.9
No. 14	35	134.1	1,800,000	35	16.5	27,000	37	6	16.2	88	26.8	72,000	91	26	28.6
No. 15	35	63.7	400,000	34	16.4	27,000	35	10	28.6	47	44.7	200,000	47	21	44.7
No. 16	36	84.6	710,000	36	26.7	71,000	36	10	27.8	34	49.6	246,000	34	16	47.1
No. 17	30	140.6	1,970,000	28	21.1	44,000	30	15	50.0	48	26.7	71,000	48	20	41.7
No. 18	13	172.5	2,980,000	13	10.8	11,000	13	4	30.8	11	73.0	534,000	14	9	64.3
No. 19	36	144.9	2,100,000	35	9.4	8,800	36	16	44.5	90	21.0	44,000	90	40	44.4
No. 20	13	116.8	1,360,000	12	17.6	31,000	13	3	23.1	12	54.3	296,000	12	8	66.7
No. 22	32	147.2	2,170,000	32	12.6	16,000	32	11	34.4	44	50.7	257,000	43	23	53.5
No. 23	32	74.4	550,000	33	10.8	11,000	34	4	11.8	45	18.8	35,000	45	14	31.1
No. 24	22	155.1	2,410,000	23	18.5	34,000	22	10	45.5	36	57.4	345,000	36	16	44.4
No. 25	18	177.7	3,160,000	18	12.2	14,000	19	9	47.3	15	11.2	12,000	16	13	81.3
No. 28	35	137.3	1,880,000	34	36.2	131,000	35	15	42.8	79	72.8	530,000	81	54	66.7
No. 29	33	112.1	1,260,000	34	18.4	34,000	33	15	45.5	65	48.1	232,000	67	43	64.2
No. 31	.....	.....	.....	.....	.....	.....	.....	.....	.....	25	10.2	10,000	24	11	45.8
No. 33	14	86.7	750,000	14	51.1	260,000	14	10	71.5	46	34.9	122,000	46	30	65.2

The above table (No. 12) shows a comparison between the various samples of milk obtained from pasteurizing plants or from samples as dispensed to consumers, as explained in the report of the Commission on Milk Standards, published in Public Health Report No. 78 of the United States Public Health Service. The ratings for comparison between milk samples from different sources are called the bacterial content and are obtained by extracting the square root of the count divided by 100. The Levy average is the average of the square roots obtained from all of the counts from a given dairy, as above described, and the equivalent bacterial count is the reverse of the above obtained by squaring the Levy average and multiplying by 100.

The figures in this table present a fair method of comparing the milk of the different dairies and also of comparing the pasteurized milk at the dairies with that finally dispensed to customers. The raw milk received at each dairy can also be compared with that received at the other dairies and the raw milk at each dairy can also be compared to the milk at this same dairy after it has been pasteurized.

An examination of this table will show that the raw milk as received at the various dairies shows a marked difference in the equivalent bacterial count, some showing much higher counts than others. The table also shows that the pasteurized product at the dairy varies greatly in its bacterial count as obtained from the various dairies, and that there are also wide differences in the bacterial count of the final package as dispensed to the customer. A comparison of the equivalent bacterial count of the pasteurized milk at the plants with the pasteurized milk dispensed to customers shows that in some instances there is practically no bacterial increase between the time that the milk is pasteurized and the time that it is obtained by the inspectors from the bottles in the wagons on the street. In other cases there is a moderate increase in the bacterial count between the pasteurizing plants and the wagon samples,

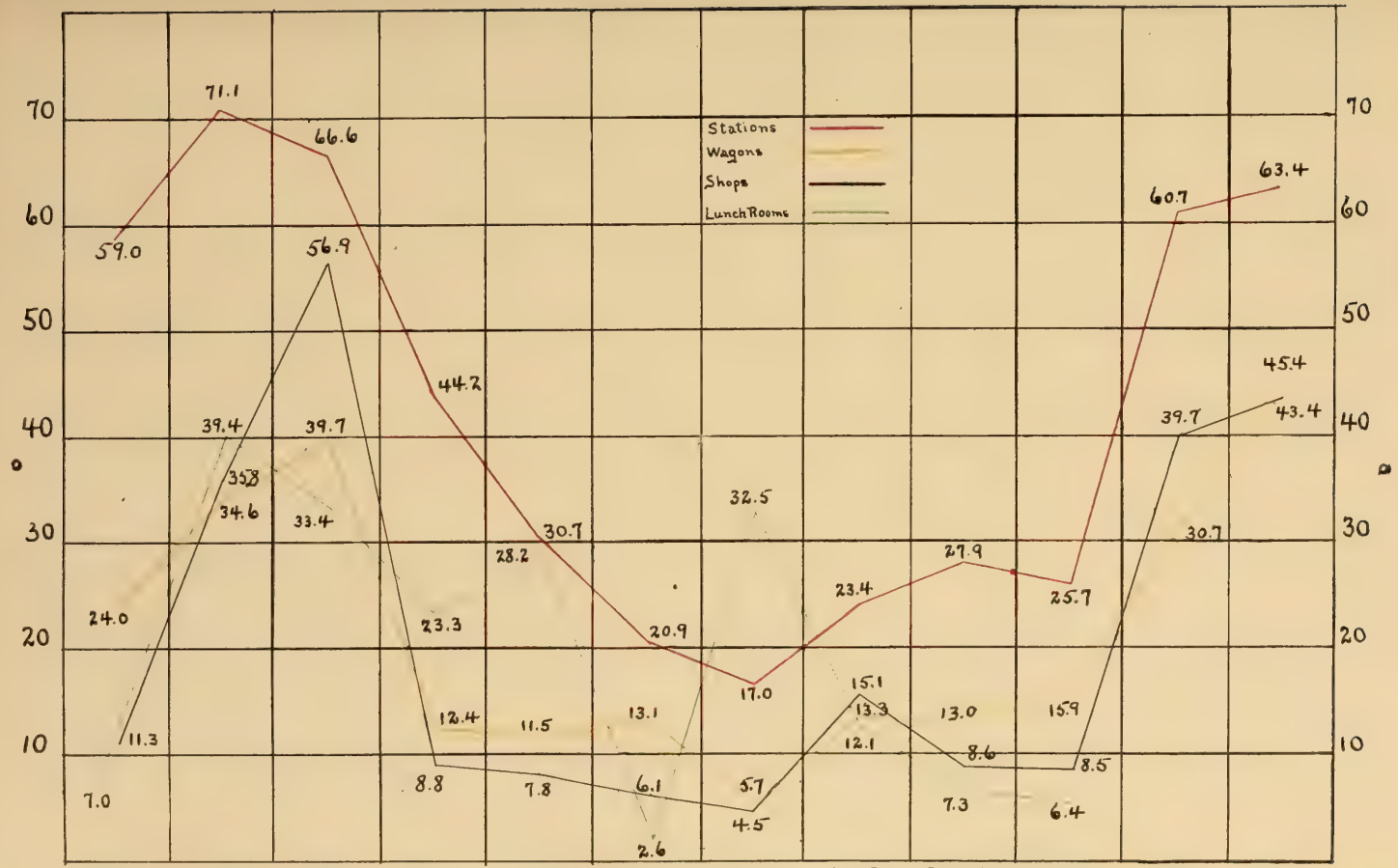

Stations
Wagons
Shops
Lunch Rooms
70
60
50
40
30
20
10
JAN.
FEB.
MAR.
APR.
MAY
JUNE
JULY
AUG.
SEPT.
OCT.
NOV.
DEC.
59.0
71.1
66.6
44.2
30.7
20.9
17.0
23.4
27.9
25.7
60.7
63.4
24.0
39.4
35.8
34.6
39.7
33.4
23.3
28.2
32.5
30.7
45.4
43.4
39.7
11.3
56.9
12.4
11.5
13.1
15.1
13.3
12.1
13.0
8.6
15.9
8.5
30.7
7.0
8.8
7.8
6.1
2.6
5.7
4.5
7.3
6.4

Chart No. 5.

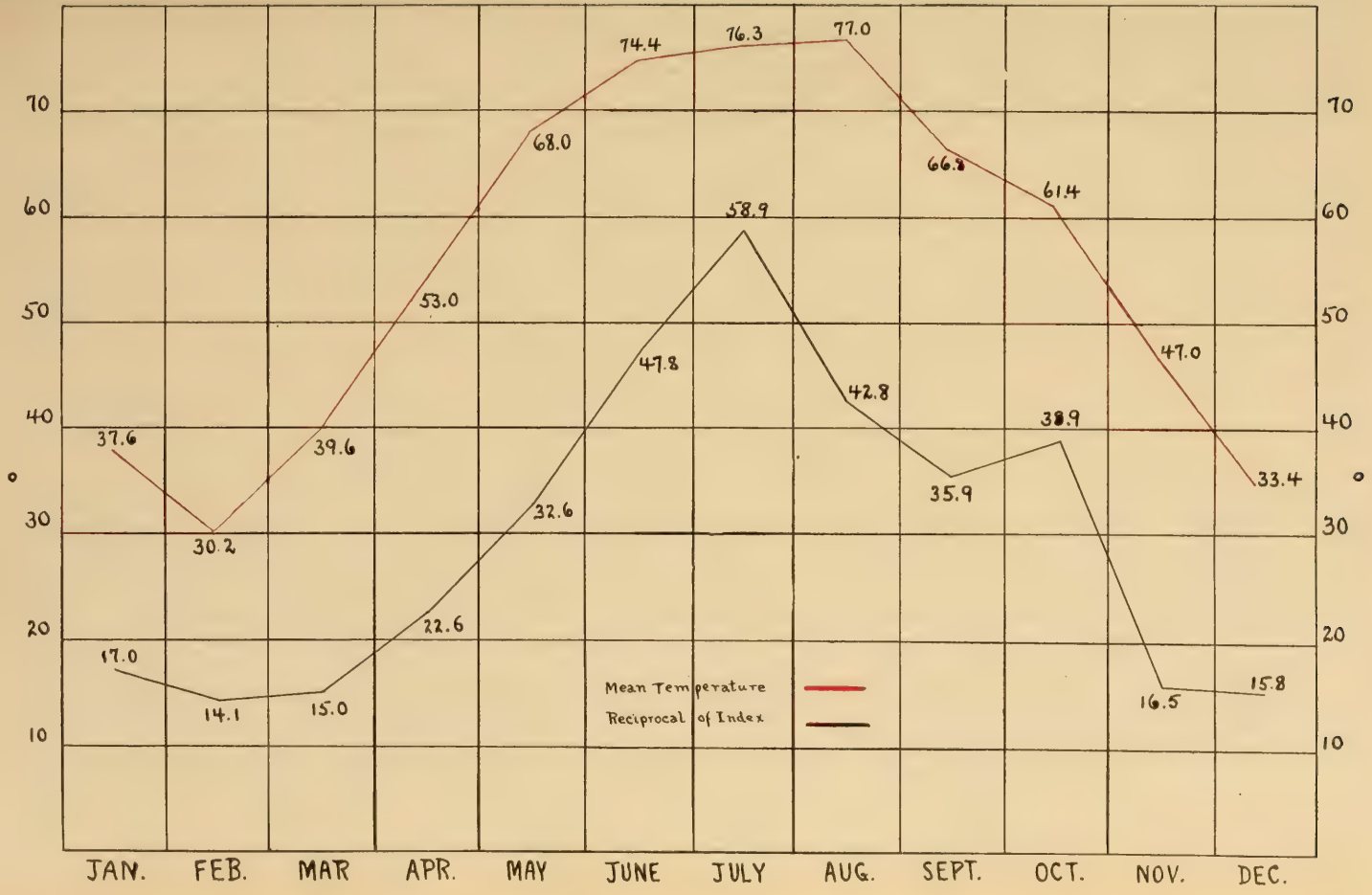

70
60
50
40
30
20
10
°
74.4
76.3
77.0
68.0
66.8
61.4
58.9
53.0
47.8
47.0
42.8
39.6
38.9
37.6
33.4
35.9
32.6
30.2
22.6
17.0
15.8
16.5
15.0
14.1
Mean Temperature
Reciprocal of Index
JAN.
FEB.
MAR
APR.
MAY
JUNE
JULY
AUG.
SEPT.
OCT.
NOV.
DEC.

Chart No. 6.

and in a number of instances there is a decided increase in the bacterial count between the time that it is pasteurized at the plant and the time that it is dispensed to the customers. Dairy No. 31 is a special milk which is not pasteurized.

The above chart (No. 5) shows the bacterial index for the various months of the year from station, wagon, lunchroom and shop milk. The red line for the station milk shows the highest curve, with the exception of one month, and this would be expected, since the higher the index the lower the bacterial count. There is quite a contrast between the milk produced in the winter months and that produced during the warmer months of the year. The milk from the wagons shows a lower index than that obtained from the stations, but the milk obtained from the shops and lunchrooms shows some curious variations. At times they nearly approach the bacterial index of station milk and exceed that of the wagon milk, but during other months they both drop below the station and wagon milk. This method of comparing the bacterial index by means of curves shows in a striking way the difference between the bacterial count in the winter and summer months and also the contrast between the milk samples obtained from the various sources mentioned in the chart.

The above chart (No. 6) expresses by means of curves the relation between the reciprocal of the bacterial index of the station milk and the mean monthly temperature. One thousand times the reciprocal of the bacterial index was used to make the curves convergent instead of divergent and this shows a general correspondence between the average monthly temperature and the height of the bacterial count as indicated by the Levy system of rating.

TABLE NO. 13—*Showing by Months the Results of Examinations of Milk from Railroad Stations by the Slack Method.*

MONTHS.	Number of Examinations Showing More than 1,000,000 Leucocytes per c. c.				Number of Examinations Showing Less than 1,000,000 Leucocytes per c. c.				Total Number of Examinations by Months.
	Streptococci Under 1,000,000 per c. c.	Percentage Streptococci Under 1,000,000 per c. c.	Streptococci Above 1,000,000 per c. c.	Percentage Streptococci Above 1,000,000 per c. c.	Streptococci Under 1,000,000 per c. c.	Percentage Streptococci Under 1,000,000 per c. c.	Streptococci Above 1,000,000 per c. c.	Percentage Streptococci Above 1,000,000 per c. c.	
January	26	6.6	0	0	361	92.1	5	1.2	392
February	19	4.1	0	0	436	93.8	10	2.1	465
March	142	15.5	18	1.9	730	79.6	27	2.9	917
April	202	25.8	9	1.1	548	70.0	24	3.1	783
May	31	6.1	3	0.6	466	92.0	7	1.4	507
June	42	6.5	3	0.4	576	89.2	24	3.8	645
July	4	1.5	0	0	242	91.7	18	6.8	264
August	14	11.2	0	0	104	83.2	7	5.6	125
September	39	13.4	4	1.4	241	83.1	6	2.1	290
October	70	10.2	8	1.2	571	83.6	34	5.0	683
November	134	19.3	5	0.7	541	77.8	15	2.2	695
December	196	24.2	14	1.7	565	69.8	34	4.2	809
Total	919	14.0	64	1.0	5,381	81.9	211	3.1	6,575

EXAMINATIONS FOR LEUCOCYTES AND STREPTOCOCCI IN MILK.

During the year we made 6,575 examinations by the Slack method for the detection of excessive numbers of leucocytes and streptococci in milk collected at the railroad stations, and the above table (No. 13) shows the result of this work. As seen from the table, 14 per cent. of the specimens showed leucocytes over 1,000,000 per cubic centimenter, but only 1 per cent. of the specimens examined contained streptococci

above this number. When the leucocytes and streptococci are both over 1,000,000 per cubic centimeter the result is reported to the Chief of the Bureau of Food and Dairy Inspection, who has the herd inspected for garget and other inflammatory conditions of the udder. The results of the sanitary inspection of the herds following these reports are given in the report of the Chief of this Bureau, to which the reader is referred for further information.

EXAMINATION OF MILK SEDIMENTS FOR TUBERCLE BACILLUS.

During the past year we have examined 118 milk sediments, representing milk from 58 farms, for the presence of the tubercle bacillus, or pyogenic bacteria. These specimens were obtained from the railroad stations and the examinations were made by the following technique proposed by Kinyoun:

Fifteen cubic centimeters of milk are centrifugalized for one hour, the fluid portion is poured off and cream and sediment thoroughly mixed. Normal salt solution is added to 15 cubic centimeters, and the mixture is well shaken. It is then divided into two parts of 7½ cubic centimeters each. One part is injected untreated subcutaneously; to the other part 0.2 cubic centimeter of antiformin are added and this is brought up to 15 cubic centimeters. This is thoroughly shaken and allowed to stand several minutes, when it is centrifugalized for ten minutes. The fluid portion is poured off and the cream and sediment are mixed with two cubic centimeters of salt solution and injected intraperitoneally.

The work of the past year in the examination of market and pasteurized milk for the presence of the tubercle bacillus or other infectious organisms has brought the number of investigations to 500 tests, either upon the milk from dairy farms or from pasteurized milk. The work as completed shows the following results:

Three hundred and forty-eight pigs were inoculated from 174 specimens of milk, which were obtained from 150 dairy

farms. In 254 of these specimens we were unable to detect any infectious organisms, but the staphylococcus aureus was detected in 35 cases, the tubercle bacillus in 8 cases, the pneumococcus in 3 cases, the colon bacillus in 1 case, the streptococcus pyogenes in 1 case and the paratyphoid bacillus in 2 cases. Three of the animals died from shock and the record of 42 of these pigs was not obtained.

One hundred and forty-six examinations were made of pasteurized milk and 112 were negative, while 18 contained the staphylococcus aureus, 14 the colon bacillus and 1 the streptococcus pyogenes.

During the entire period referred to above we have examined milk sediments from 175 dairy farms and the tubercle bacillus was detected in specimens from 7 different farms, making a percentage of 4. The staphylococcus aureus was obtained from 23 dairy farms, or 13.1 per cent.; the streptococcus pyogenes was obtained from 1 farm, a percentage of .5 of 1 per cent.; the paratyphoid bacillus from 2 farms, or 1.1 per cent., and the colon bacillus from 1 farm. These results were all reported to the Bureau of Food and Dairy Inspection and proper measures were taken in regard to these findings.

The result of this investigation shows that in a fair number of instances infectious organisms of various kinds are detected in market milk and also demonstrates that at times pathogenic organisms escape the process of pasteurization and are found in the pasteurized product. Such organisms which are pathogenic for guinea pigs cannot always be considered as capable of producing diseases in human beings, but many of them are probably able to do so, and there is no data at present which enables us to differentiate the organisms solely pathogenic for guinea pigs from those pathogenic for human beings. In the case of the tubercle bacillus, however, this doubt does not exist, as those pathogenic for guinea pigs can be assumed as also pathogenic for human beings.

Examination of Pasteurized and Market Milk for the Presence of the Streptococcus or Pneumococcus.

We examined 31 additional specimens of market milk for the presence of a virulent streptococcus or pneumococcus by inoculation of mice, but failed to find either organism in any instance. The following virulent organisms, however, were isolated, namely: the staphylococcus aureus, the bacillus pyogenes and the bacillus proteus in one instance and the bacillus coli in two cases.

Examination of Oysters and Clams.

During the past year we have examined 90 samples of shell stock oysters, 15 samples of shucked oysters and 65 samples of shell stock clams. The scoring of the shell stock oysters and clams has been expressed according to the method of the Committee on the Bacterial Examination of Oysters of the American Public Health Association, but the results from the shucked stock have simply been expressed in a table, since multiple samples were not collected. The tables which follow show quite low scores for both the shell stock oysters and clams, with a few exceptions. The highest score allowable for oysters to pass the condemnation of the Bureau of Chemistry of the United States Department of Agriculture is 23, and it can be seen that several of the final scores from the shell stock oysters have exceeded this figure. The clams all show very low scores, but both oysters and clams often show high bacterial counts. There is also quite a contrast between the shell stock and the shucked stock, since the bacterial counts in the shucked stock are much higher and the colon bacillus is present in much smaller quantities of the oyster liquor. These results simply confirm those of previous years, since in the report of 1913 it is shown that there is a very great difference between the shucked stock and the shell stock, the

former showing much higher bacterial counts and much higher numbers of colon bacilli present, as indicated by the higher scores.

TABLE No. 14—*Oysters (Shell Stock)*.*

SOURCE.	Date.	Average Bacterial Count.	Score.	Presumptive Test Score.
Rock Bar, Magothy River	Oct. 14...	7,400	5	13
West River	Oct. 14...	8,400	320	320
Chester River	Oct. 14...	10,800	23	140
Chester River	Oct. 26...	1,000	14	23
Herring Bay	Oct. 26...	1,600	41	50
West River	Oct. 26...	1,000	32	41
Rappahannock River	Nov. 7....	10,800	140	500
West River (off Bay Shore)	Nov. 7....	37,000	2	23
White Hall	Nov. 7....	37,600	5	32
Fishing Creek	Nov. 14...	16,400	14	50
Herring Bay	Nov. 14...	27,800	31	32
West River	Nov. 14...	34,200	3	50
Eastern Bay	Nov. 27...	6,940	1	1
Holland Point	Nov. 27...	5,480	0	0
West River	Nov. 27...	7,420	5	14
Herring Bay	Dec. 19...	11,820	2	3
Patuxent River	Dec. 19...	3,900	1	3
West River	Dec. 19...	4,440	1	4

*Specimens obtained from oyster boats at Baltimore wharves.

TABLE No. 15—*Oysters (Shucked).*

SOURCE.	Date.	Bacterial Count.	Colon Bacillus per c. c.
Wholesale house	Apr. 25	500,000	10
Wholesale house	Apr. 25	800,000	1
Wholesale house	Apr. 25	1,000,000	10
Wholesale house	Oct. 2	950,000	10
Wholesale house	Oct. 2	600,000	1
Wholesale house	Oct. 2	160,000	1,000
Wholesale house	Oct. 8	80,000	10
Wholesale house	Oct. 8	60,000	1,000
Wholesale house	Oct. 8	110,000	100
Wholesale house	Oct. 8	80,000	10
Wholesale house	Oct. 8	110,000	1,000
Wholesale house	Oct. 8	120,000	100
Wholesale house	Dec. 3	7,000,000	10,000
Wholesale house	Dec. 3	240,000	1,000
Wholesale house	Dec. 3	500,000	100

TABLE No. 16—*Clams (Shell Stock).*

SOURCE.	Date.	Average Bacterial Count.	Score.	Presumptive Test Score.
Seaside Clams	May 16	4,360	4	4
Mobjack Bay	May 16	17,050	1	1
Pocomoke Sound	May 16	14,600	1	23
Seaside Clams	May 23	1,460	1	1
Hampton Bar	May 23	6,280	3	4
Mobjack Bay	May 23	2,880	0	0
Severn River	June 6	9,162	0	0
Hampton Bar	June 6	13,750	3	3
Seaside Clams	June 13	5,400	0	0
Pocomoke Sound	June 13	4,580	1	3
Mobjack Bay	June 13	8,500	0	1
Hampton Bar	Sept. 5	3,040	0	0
York River	Sept. 5	2,152	0	0

Examination of Other Foods.

The number of examinations of the various other foods such as ice, ice cream, vegetables and other miscellaneous foods is expressed in Table No. 17 and the results of these examinations have been reported to the Chief of the Bureau of Food and Dairy Inspection.

Examination of Rats for the Presence of the Bacillus of Bubonic Plague.

During the year 12 rats were trapped along the water-front by Inspector Kelly and were examined by Dr. F. W. Hachtel for the presence of infection by the bacillus of bubonic plague. This examination consisted in a careful dissection of each rat, but no suspicious signs of plague infection were discovered in any case. The number of rats that were caught has been so few that the work is of practically no value, and in order to carry on this work properly several rat catchers should be employed for this purpose and at least one laboratory man should give his entire time to the dissection and examination of these rats.

Clerical Sub-Division.

Table No. 17, which follows, gives the report of the Clerical Sub-Division, which is under the charge of Mr. Harry L. Carman. This table shows that we made 45,247 laboratory examinations during the year, as compared to 37,931 for the previous year. The laboratory has also given out 8,654,000 units of diphtheria antitoxin for indigent cases, 46,050 tubes of anti-smallpox vaccine to health wardens or public institutions and 1,542 complete doses of anti-typhoid vaccine to physicians. The diphtheria antitoxin and the anti-smallpox vaccine are purchased in the trade, but the anti-typhoid vaccine is manufactured in the laboratory. The work in detail follows in the table.

TABLE NO. 17—*Examinations of Specimens to Determine the Presence of Disease from January 1, 1914, to December 31, 1914.*

Diphtheria—	
Positive cultures	878
Negative cultures	2,607
Suspicious cultures	5
Unsatisfactory cultures	89
Total cultures	3,579
Positive cultures of school children's throats	127
Negative cultures of school children's throats	993
Suspicious cultures of school children's throats	19
Unsatisfactory cultures of school children's throats	55
Total cultures	1,194
Positive cultures from throat examined by throat inspector	281
Positive cultures from nose examined by throat inspector	81
Negative cultures from throat examined by throat inspector	3,733
Negative cultures from nose examined by throat inspector	1,112
Contaminated cultures from throat examined by throat inspector	64
Contaminated cultures from nose examined by throat inspector	0
Total cultures	5,271
Tuberculosis—	
Positive results	479
Negative results	1,536
Suspicious results	11
Unsatisfactory results	2
Total specimens	2,028
Typhoid Fever—	
Positive reactions	413
Negative reactions	1,229
Suspicious reactions	217
Unsatisfactory reactions	9
Total reactions	1,868

TABLE No. 17 (Continued)—*Examinations of Specimens to Determine the Presence of Disease from January 1, 1914, to December 31, 1914.*

Blood Examined for Paratyphoid—	
Positive	70
Negative	932
Suspicious	66
Total reactions	1,068
Typhoid Bacillus from Blood Cultures—	
Positive results	21
Negative results	149
Unsatisfactory results	1
Total results	161
Paratyphoid Bacillus for Blood Cultures—	
Positive results	5
Negative results	149
Unsatisfactory results	1
Total results	155
Malaria—	
Positive results	4
Negative results	338
Unsatisfactory results	95
Total results	437
Institutions and Hospitals Examined for Diphtheria—	
Positive results	33
Negative results	419
Suspicious results	6
Unsatisfactory results	6
Total results	464
Cultures Examined for Meningococcus—	
Positive	0
Negative	11
Total results	11

TABLE No. 17 (Continued)—*Examinations of Specimens to Determine the Presence of Disease from January 1, 1914, to December 31, 1914.*

Antitoxin units supplied to indigent cases	8,654,000
Tubes of vaccine used during the year	46,050
Complete doses of anti-typhoid vaccine furnished	1,542
Miscellaneous examinations	100
Water examinations	1,017
Milk examinations	16,189
Oyster examinations	113
Ice cream examinations	24
Ice examinations	19
Rat examinations for bubonic plague	12
Clam examinations	55
Vegetable examinations	8
Syrup examinations	1
Butter examinations	1
Meat examinations	1
Condensed milk examinations	1
Milk sediment inoculated into animals for streptococci and pneumococci	31
Examinations of milk sediment for tuberculosis	118
Fowl examinations	1
Examination of milk for leucocytes and streptoccocci	6,575
Examination of control cultures for disinfection	4,755
Total number of examinations	45,257

Table No. 18, which follows, gives the results of the treatment of patients with diphtheria, and the immunization of persons exposed to this disease in infected houses. During the year we furnished antitoxin to 755 cases, amongst which there were 53 deaths, giving a fatality of 7 per cent. In 419 of these cases the diagnosis was verified by the bacteriological examination and of these cases only 22 died, giving a percentage of fatality of 5. The fatality from nasal diphtheria was 9.6 per cent. and from laryngeal diphtheria 12.5 per cent.

We also furnished immunizing doses for 650 persons, and of these only four later developed diphtheria. The other portion of the table shows the progressive increase in the fatality from diphtheria according to the day of the disease on which the antitoxin is administered, and the results would indicate that if antitoxin is administered promptly within the first twenty-four hours of the disease the fatality can be reduced from about 50 per cent. to less than 5 per cent. From 1898 to 1914, inclusive, we have given out immunizing doses of antitoxin to 4,755 contacts exposed to diphtheria in the various infected houses and only 24 of these persons subsequently developed diphtheria. This is an attack rate of 0.4 of 1 per cent. and compares most favorably to an attack rate that may have been expected if antitoxin had not been used for the prevention of the further spread of diphtheria. I have not been able to find any actual figures which show the percentage of second or third cases of diphtheria developing in a household. The experience of others, however, before the days of antitoxin showed that frequently a second case would develop in a household following the presence of one case of diphtheria in the house. Young,* in citing figures from the weekly bulletin of April 11, 1914, of the New York Department of Health, gives 13 per cent. of secondary cases occurring in patients in New York. Only those cases were considered secondary which developed after the expiration of the incubation period of the disease, but even with these figures it can be seen that this large percentage compares very favorably with the 0.4 of 1 per cent. of secondary cases following the use of an immunizing dose of diphtheria antitoxin.

**Journal of American Medical Association,* Volume LXIV, No. 6, February 6, 1915, page 487.

TABLE No. 18—*Cases of Diphtheria Treated With Antitoxin Furnished by the Health Department from January 1, 1914, to December 31, 1914.*

Cases.	Deaths.	Fatality.	Extent of Membrane.				Complications.					Cases Immunized.		
			Tonsils.	Pharynx.	Nasal.	Larynx.	Broncho-Pneumonia.	Nephritis.	Sepsis.	Paralysis.	Cardiac Paralysis.	Total.	Successful.	Diphtheria Developed.
755	53	7.0	409	242	52	191	5	5	1	20	5	650	646	4

Cases in which diphtheria bacilli were found	419	Percentage of fatality	9.6
Deaths resulting	22	Cases of laryngeal diphtheria	191
Percentage of fatality	5.0	Deaths resulting	24
Deaths from nasal diphtheria out of 52 cases	5	Percentage	12.5

Fatality After Use of Antitoxin According to Duration of Disease at Time of Injection.	1st Day.	2d Day.	3d Day.	4th Day.	5th Day.	6th Day.	7th Day.	8th Day.	10th Day.	2 Weeks.	Unknown.
Cases	191	222	147	58	30	16	34	5	2	8	24
Deaths	9	13	11	3	6	3	4	1	1	1	1
Percentage	4.7	5.8	7.4	5.1	20.0	18.5	11.7	20.0	50.0	12.5	4.1

Fatality in cases not treated with antitoxin (Welch) ..... 42.1 %
Average fatality in Baltimore for four years (1894, 1895, 1896, 1897) prior to the use of antitoxin.. 55.18%

Reduction in Diphtheria by the Use of Diphtheria Antitoxin.

In Chart No. 7, which follows, it can be seen that the number of cases of diphtheria per 100,000 population has perceptibly diminished since the introduction of the free distribution of antitoxin, which was begun in 1898. However, from the years 1911 until 1914, inclusive, the number of reported cases shows a moderate increase.

It is difficult to analyze the various causes which have brought about this result, but the matter should at least be considered in order to again reduce the number of cases if possible. Amongst those measures which might be adopted in order to bring about a reduction in the cases of diphtheria a careful investigation of the schools is the first point to be considered. A close relationship between the opening of the schools and an increase in the number of diphtheria cases has been noted in the report for 1911, as indicated by Chart No. 3, opposite page 205. A great many of the positive cultures of the schools will be found to be non-virulent, but if measures could be adopted to weed out those children showing virulent cultures of the diphtheria bacillus enough of such cases might be found to warrant them being placed in special schoolrooms in case it was not deemed expedient to deprive them of their school work.

Another method of decreasing the prevalence of diphtheria might be found in compelling physicians to take cultures from the noses as well as the throats of all convalescents, as a certain number of positive cultures is found in nose cultures where the throats are negative. Our present force of throat inspectors would not warrant the taking of a nose culture from every contact, but this force should be increased so that this can be done. The determination of the virulence of organisms, which are morphologically identical with the diphtheria bacillus, should also be carried out and special measures should be taken in preventing these cases from mixing with the public.

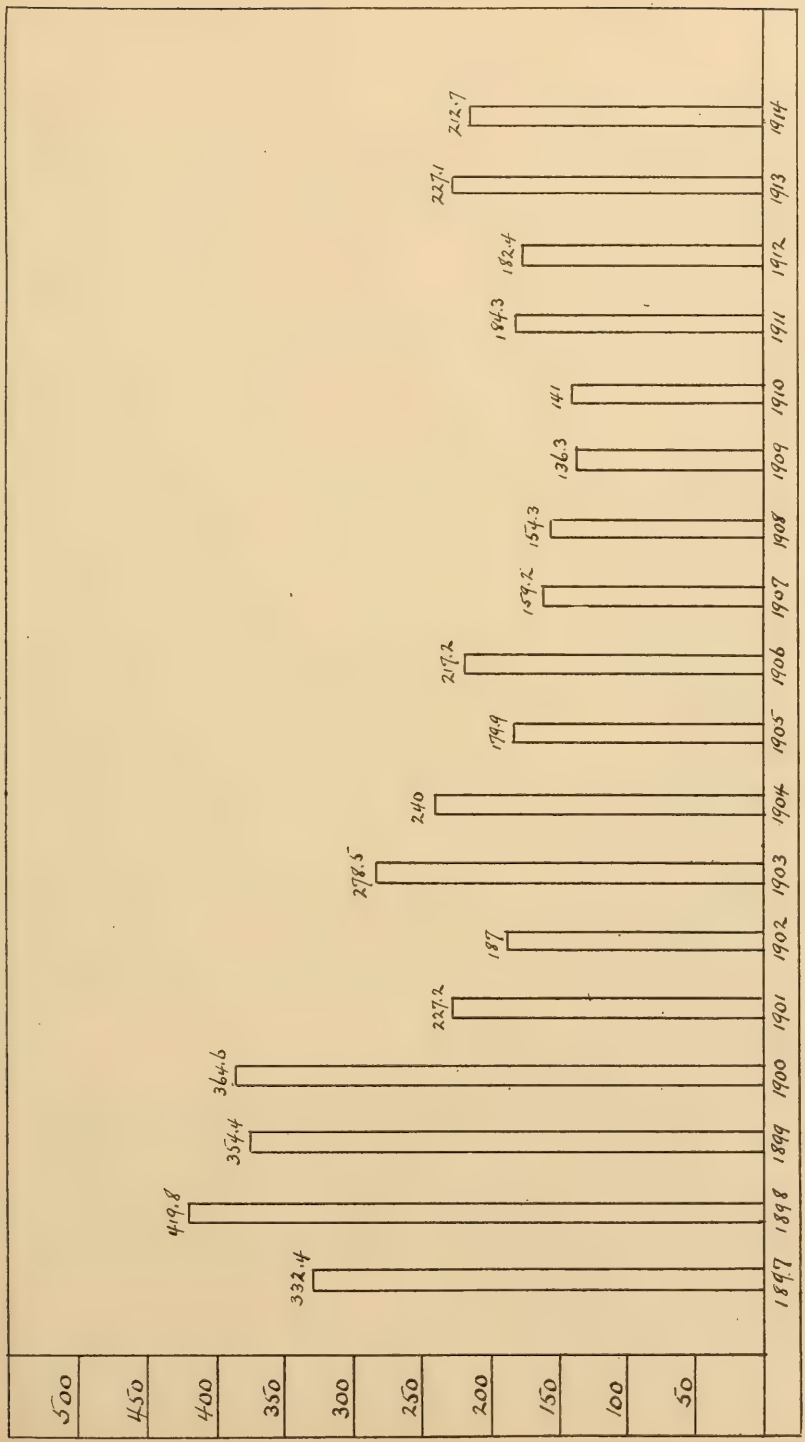


CHART No. 7.—Reported cases of diphtheria per 100,000 population.

An examination of Chart No. 8, which follows, will show the deaths per 100,000 population from diphtheria in the pre-antitoxin period, from 1875 to 1897, inclusive, as compared to the deaths per 100,000 population since the free distribution of antitoxin, which was begun in 1898. This action also encouraged the use of antitoxin by the physicians for the general population who were able to pay for this remedy, and the effect in the reduction of the number of deaths from diphtheria can be easily noted on examining the chart. A maximum of 264.1 deaths per 100,000 population in 1882—before the use of antitoxin—contrasts markedly with a maximum of 83.2 in the first year that antitoxin was used, and a minimum of 45.9 deaths in the pre-antitoxin year of 1893 compares most favorably with a minimum of 11.8 in the antitoxin period during the year of 1908. The effect of antitoxin in preventing deaths from diphtheria is also seen by comparing the average number of deaths per 100,000 population from 1875 to 1897, inclusive, to a similar average from 1898 to 1914, inclusive. During the earlier period, in which no antitoxin was used, the average number of deaths per 100,000 population was 113.2; while this average number during the latter period, when antitoxin was used, fell to 27.0. Many lives have thus been saved by the use of this curative and preventive remedy, and although disinfection and early bacteriological diagnosis have probably had some part in reducing the number of cases, yet the use of antitoxin in the treatment and prevention of diphtheria has played the most important part in this saving of human life.

Report of Throat Inspectors.

The report of the throat inspectors shows that 5,271 cultures were taken from contacts or convalescents in houses quarantined on account of diphtheria by the throat inspectors, Dr. B. P. Herzog and Dr. G. H. Woltereck. Of these, 362 were positive for diphtheria, and such individuals if allowed to mix

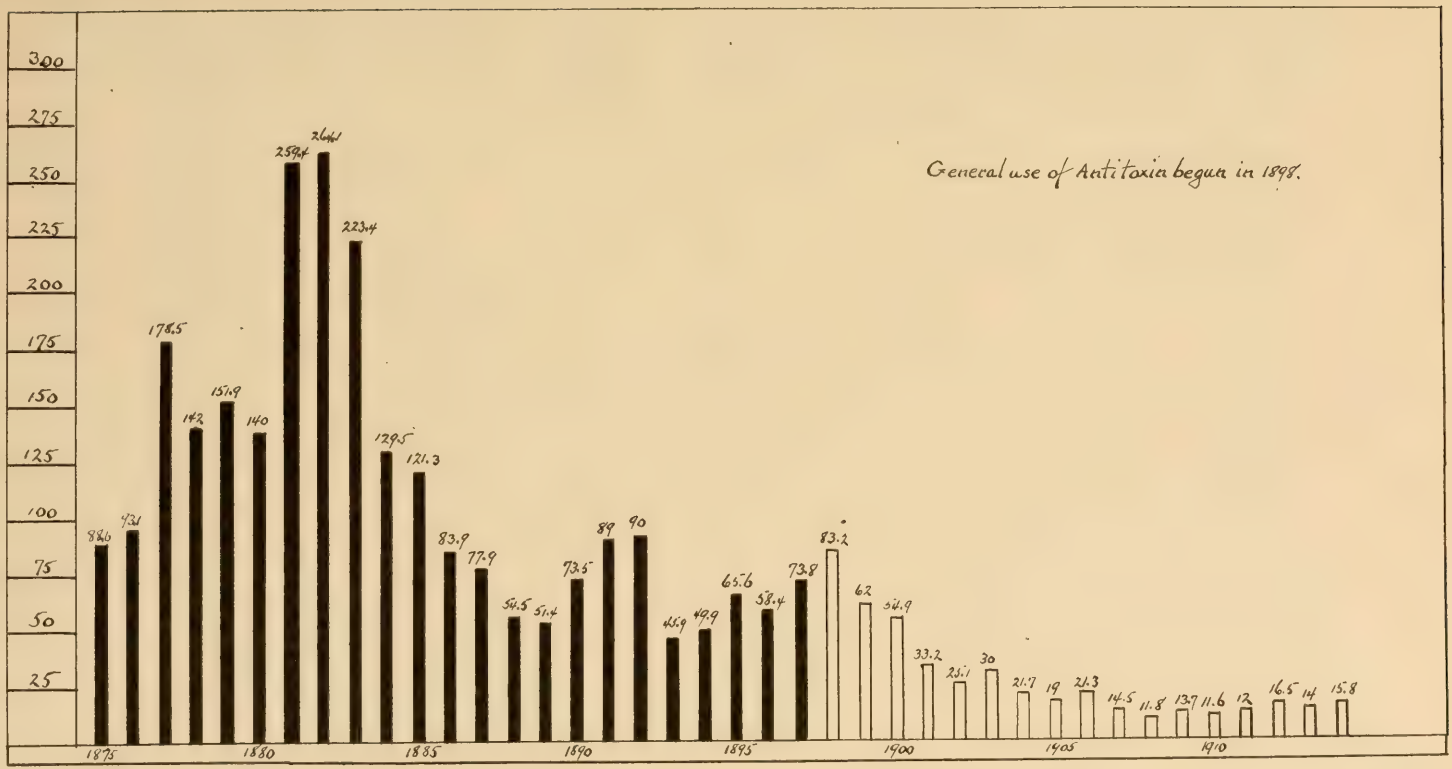


CHART No. 8—Deaths from diphtheria per 100,000 population.

with the public would doubtless have caused a large number of cases of diphtheria to develop. We also examined 3,579 cultures taken by attending physicians from contacts and convalescents, and of these 878 were positive for diphtheria. These individuals were also kept from mixing with the public until the throat cultures were negative for the diphtheria bacillus and this has probably also greatly aided in the restriction of the spread of diphtheria amongst the public. The facts concerning the large percentage of positive nasal cultures, many of which show negative throat cultures, are well worthy of consideration and would indicate the necessity for taking cultures from the noses of all contacts, as well as their throats, before the house is fumigated and quarantine removed.

Distribution of Supplies to Culture Stations.

The report of Mr. Harry Rush, distributor and maker of culture supplies, shows that 24,986 culture outfits were distributed during 1914 to the various culture stations. A large number of outfits was also supplied to about 65 sub-stations and various institutions and hospitals.

Table No. 19—*Showing Distribution of Culture Outfits for* 1914.

Culture tubes distributed	19,338
Culture tubes brought back	9,599
Culture tubes used and sent to the Department	4,719
Typhoid boxes distributed	2,050
Typhoid boxes used and sent to the Department	1,814
Miscellaneous outfits distributed	131
Miscellaneous outfits used and sent to the Department	70
Sputum outfits distributed	3,157
Sputum outfits used and sent to the Department	2,028
Combined blood, urine and feces culture outfits distributed	310
Combined blood, urine and feces culture outfits used and sent to the Department	160

The Collection of Various Samples of Raw Foods.

The examination of the various specimens set forth below in Table No. 20 is made for the purpose of studying the con-

dition of the many raw and refrigerated foods. Mr. Edward F. Kelly, the special laboratory collector, has obtained 2,270 specimens; these specimens being obtained from 1,153 dwellings, wagons, stores and dairies. His report in detail follows as Table No. 20:

TABLE No. 20—*Showing the Work Done by the Collector for the Bacteriological and Chemical Laboratories.*

	No. of Specimens.
Water, city	1,090
Water, table	14
Water, pump	4
Water, spring	41
Water, filtered	42
Milk, original package pint bottles	960
Ice, artificial	8
Ice cream	47
Oysters, shucked	30
Osyters, shell	12
Clams	22
Total number of specimens	2,270
Dairies visited	33
Dwellings visited	120
Stores visited	40
Wagons	960
Total	1,153

EXAMINATION OF CONTROL CULTURES FOR DISINFECTION OF HOUSES AFTER COMMUNICABLE DISEASES.

During the year we examined 4,755 control cultures which were sent in from persons whose rooms had been disinfected by formaldehyde gas by the Department. Of these cultures 4,330 were proven to have been destroyed by the formaldehyde gas and this shows that the great majority of rooms disinfected by formaldehyde was given a thorough surface sterilization by this method.

Summary.

The results of the examination of the water supply during 1914 show a fairly uniform bacterial reduction in the water from the storage reservoirs and the city taps, as compared to the raw water of the Loch Raven system. Several exceptions to these results can be noted, however, in the table. The percentage of positive tests for the presence of the colon bacillus in the storage reservoirs and the tap water shows a very great reduction when compared to the percentage of positive tests in the raw water. The results obtained from the examination of the water from the storage reservoirs and city taps of the Lake Roland system, when compared to the results from the raw water, are not as favorable nor has the colon bacillus been eliminated from the water in as large a percentage of instances. The results in detail can be seen upon examining Tables Nos. 2 and 3.

The reduction in the number of reported cases and deaths from typhoid fever shows some improvement when compared to previous years, as set forth in Table No. 4, and the various charts concerning the cases and deaths from typhoid fever also show a fair reduction since the use of calcium hypochlorite in the treatment of the drinking water.

A larger number of bacteriological examinations of milk was made during 1914 than in 1913 and the various tables found in the text show the comparison by months of the milk collected from the railroad stations, the wagons, the stores, the dairies and the lunchrooms. The results are expressed by means of the Levy bacterial index and the same deterioration in the milk is seen from the time that it leaves the railroad stations until it is sold from the stores, dairies, wagons and lunchrooms during this year as was noted in 1913.

In the examination of the milk for leucocytes and streptococci about 1 per cent. of the samples showed a leucocyte count and a streptococcus count over 1,000,000 per cubic centimeter. The results of the examination of market milk for

the presence of the tubercle bacillus and other infectious organisms are also described in the text. These examinations show that in about 4 per cent. of the dairy farms from which the milk was examined we were able to demonstrate the presence of the tubercle bacillus and that other infectious organisms were found in a variable percentage of cases.

The examination of oysters shows that whereas the shell stock usually shows a low bacterial count and is free from serious intestinal pollution, yet the shucked stock shows a much higher bacterial count and colon bacilli are often present in large numbers. The clams show about the same bacterial count as the shell stock oysters and are free from intestinal pollution.

The report of the clerical sub-division shows an increased number of laboratory examinations during the year, as compared to that of previous years. This also shows some gratifying results in the use of antitoxin for the treatment and prevention of diphtheria. A fair number of complete doses of anti-typhoid vaccine was distributed during the year, but this method of preventing typhoid fever should be more extensively used.

The report of the throat inspectors shows the large number of cultures examined and also emphasizes the importance of taking cultures from the noses as well as the throats of contacts before the house is relieved from quarantine.

In conclusion I desire to thank the various bacteriologists and laboratory assistants for the faithful performance of their duties.

Yours respectfully,

Wm. Royal Stokes,
Chief, Division of Bacteriology.

ANNUAL REPORT

OF THE

THROAT INSPECTORS

Report of the Throat Inspectors.

BALTIMORE, January 1, 1915.

NATHAN R. GORTER, M. D.,
Commissioner of Health.

DEAR SIR:

We herewith submit a report of the work done in that division of your Department under our charge for the year ending December 31, 1914.

In all there were 8,850 cultures taken after diphtheria for fumigation; of these, 3,579 were taken by attending physicians and 5,271 by the Inspectors of Throats representing this Department.

TABLE NO. 1—*Cultures Taken by the Attending Physicians,* 1914.

MONTHS.	Negative.	Positive.	Unsatisfactory.	Suspicious.	Total.
January	369	139	.....	1	509
February	307	93	2	2	404
March	296	65	2	1	364
April	187	24	3	.....	214
May	133	36	4	.....	173
June	105	43	6	.....	154
July	78	20	2	.....	100
August	91	30	11	1	132
September	108	41	7	.....	157
October	238	95	37	.....	370
November	320	122	9	.....	451
December	375	170	6	.....	551
Grand total	2,607	878	89	5	3,579

TABLE No. 2—*Cultures Taken by Throat Inspectors*, 1914.

MONTHS.	Negative.	Positive.	Unsatisfactory.	Suspicious.	Total.
January	630	65	.....	.....	695
February	477	40	.....	.....	517
March	352	8	.....	.....	360
April	182	5	1	.....	188
May	272	4	.....	.....	276
June	156	4	.....	.....	160
July	94	6	.....	.....	100
August	175	4	2	.....	181
September	310	31	2	.....	343
October	873	80	37	.....	990
November	700	58	16	.....	774
December	628	57	2	.....	687
Grand total	4,849	362	60	.....	5,271

TABLE No. 3—*Total Number of Cultures Taken for Fumigation*, 1914.

MONTHS.	Negative.	Positive.	Unsatisfactory.	Suspicious.	Total.
January	999	204	.....	1	1,204
February	784	133	2	2	921
March	648	73	2	1	724
April	369	29	4	.....	402
May	405	40	4	.....	449
June	261	47	6	.....	314
July	172	26	2	.....	200
August	266	34	13	.....	313
September	418	72	9	1	500
October	1,111	175	74	.....	1,360
November	1,020	180	25	.....	1,225
December	1,003	227	8	.....	1,238
Grand total	7,456	1,240	149	5	8,850

TABLE NO. 4—*Comparison for the Years* 1912, 1913 *and* 1914 *of Total Number of Cultures Taken for Fumigations.*

YEARS.	Negative.	Positive.	Unsatisfactory.	Suspicious.	Total.
1912	4,475	623	.....	.....	5,098
1913	7,299	1,676	.....	.....	8,975
1914	7,456	1,240	149	5	8,850

The striking difference in the percentage of positive cultures taken by attending physicians for disinfection over those taken by the Inspectors of Throats is due to the fact that in most instances the attending physician takes a culture from the throat of the patient only, with the request that if the culture be found free from diphtheria bacilli the Department take the cultures from the other inmates of the infected house. So in a large majority of cases this Department takes a culture from the throat of the patient after the throat has already been proven free of diphtheria bacilli.

Believing that in a large percentage of the diphtheria cases the organism can be found in the nose as well as within the throat, we have during the past three years made it a rule to take a nose as well as a throat culture from the patient only. Of these nose cultures 1,193 were taken, of which 1,112 were negative and 81 positive. This result shows that 14 per cent. of the patients convalescent from diphtheria and reported to this Department, as well as by the attending physician, still harbor diphtheritic germs in their anterior nares, and upon investigation we find that in about 10 per cent. of the above positive nose cultures the throat culture taken at the same time was negative.

We believe that the very high percentage of positive nose cultures would seem to indicate the necessity of a routine examination of a diphtheritic patient's nose as well as his throat before lifting the quarantine, and would respectfully offer this suggestion to apply to the cultures taken by the attending physician as well as those taken by the Throat Inspectors.

We believe from the above statistics and from experience that one negative culture from a throat is by no means positive evidence that diphtheria germs are not present. If practicable, two negative cultures from both nose and throat should be taken on two successive days. The percentage of error in culture taking, we think, is high enough to justify this regulation. The principal causes of error in culture taking are: carelessness or, in an intractable child, inability to touch with the swab every part of the throat.

A culture taken from the surface of the throat may be negative, due to an antiseptic gargle or spray; again, the germs may be only lodged in the follicles or crypts of the tonsils. After some little time the germs may be squeezed out of the follicles (as after eating) and again appear in the throat, at which time we would get a positive culture.

The germs may be in the anterior or posterior nares at the time the culture was taken and the throat negative and a culture taken the next day would give a positive result.

The swab may not be rubbed carefully enough over the blood serum. The blood serum may not be slanting enough to catch every part of the swab as it is twirled, and in this way the germs may remain on the swab and never come in contact with the blood serum.

Bad or dry media.

A swab already contaminated by careless handling.

Incubator trouble may delay the growth.

Unavoidable errors in staining and examining.

In view of the above causes, some of which are unavoidable, while others may be due to negligence or carelessness, we respectfully submit for your approval the necessity and practicability of this Department requiring two negative cultures from both nose and throat of a diphtheritic patient before that patient is released.

Respectfully submitted,

B. P. Herzog, M. D.,
Gustav H. Wolteréck, M. D.,
Throat Inspectors.

ANNUAL REPORT

OF THE

Bureau of Food and Dairy Inspection

Report of the Bureau of Food and Dairy Inspection.

BALTIMORE, January 1, 1915.

NATHAN R. GORTER, M. D.,
Commissioner of Health.

DEAR SIR:

I have the honor to submit herewith a report of the work accomplished in the Bureau of Food and Dairy Inspection for the year ending December 31, 1914.

ORGANIZATION.

On January 1, 1914, the Bureau of Food and Dairy Inspection was organized, according to a plan of organization submitted by the present Chief of the Bureau. This plan concentrates all of the food work of our Department under the Bureau of Food and Dairy Inspection. This Bureau is divided into two main divisions, a Division of Inspection and a Division of Laboratories. The Division of Inspection is in charge of the Chief Inspector. All food inspection work is included in this Division and comprises city milk inspection, dairy farm inspection, bakery inspection, abattoir inspection, general food inspection and the supervision of pasteurizing dairies. Including the Chief Inspector, 21 men are now enrolled in the Division of Inspection. The Division of Laboratories comprises the Chemical Laboratory and the Bacteriological Laboratory in so far as the latter is concerned with food analyses. The technique of the bacteriological food work is under the immediate supervision of Dr. William Royal Stokes, Chief of the Division of Bacteriology, but the character and amount of

work in this laboratory are directed by the Chief of the Bureau of Food and Dairy Inspection.

The plan of organization which was presented provided for an Assistant Chief of the Bureau of Food and Dairy Inspection who was to be, in addition, the Chief of the Division of Laboratories. An Assistant Chief Inspector was also suggested, who was to be Assistant Chief of the Division of Inspection. Neither of these positions was created, so that the more efficient working of the Bureau was somewhat hampered by the imposition of the duties of these positions on the Chief of the Bureau and the Chief Inspector. Notwithstanding these gaps in our organization, I believe that the formation of this Bureau marks a very important step forward in our control of the food situation in Baltimore. This Bureau is the first to be organized within this Department, and the success already attained augurs well for the success of a reorganization of the entire Department along bureau lines.

The office work is under the immediate control of the Chief of the Bureau. By this plan of organization, full responsibility for the food administration rests with the Bureau of Food and Dairy Inspection, both as regards the inspection and analysis of foodstuffs. I believe that this concentration of work and authority under one responsible head will undoubtedly be productive of greater efficiency in dealing with the increasing problems incident to our food distribution.

Milk.

The amount of milk received at the various railroad stations during 1914 was 9,723,718 gallons, an increase of 377,857½ gallons over the amount received during 1913, which is an approximate increase of over a thousand gallons a day, as received by this means of transportation. However, the amount of milk produced within hauling distance of the city has decreased to about 5,000 gallons per day, so that the approximate average daily consumption of milk is about 32,000 gallons.

This approximate daily consumption of milk in 1914 shows no appreciable increase over the average daily consumption in 1913. Considering the natural growth of the city in population during the year, it is evident that there has been a decreased consumption of milk, a fact which has been verified by inquiry among the dairymen as to the daily demand for milk. This decrease is due probably to the industrial conditions and the outbreak of foot and mouth disease.

In Table No. I are shown the amounts of milk received monthly at the various railroad stations during 1913 and 1914. Acknowledgement is hereby made of the courtesy and cooperation of the various railroad companies in furnishing this and other data.

TABLE No. I—*Showing the Amount of Milk in Gallons Received Each Month at the Various Railroad Stations During* 1913 *and* 1914.

MONTHS.	B. & O. R. R. Camden, Gay St., and Mt. Royal Stations.		Md. & Pa. R. R. Oak St. Station.		W. M. R. R. Hillen Station.		W. M. R. R. Fulton Station.
	1913.	1914.	1913.	1914.	1913.	1914.	1913.
January	88,785	95,560	200,477	230,702	131,925	106,909	145,869
February	77,530	93,669	184,444	210,559	102,351	101,212	113,711
March	96,295	105,575	213,778	237,990	112,768	109,777	122,917
April	101,320	114,363	221,242	252,756	84,385	106,988	129,953
May	132,055	144,286	258,888	284,231	107,400	118,996	156,589
June	124,590	135,374	244,796	259,292	114,113	117,646	166,604
July	109,580	119,894	226,871	239,398	101,594	108,618	173,725
August	112,480	108,338	226,164	233,317	114,837	153,130	195,523
September	103,065	107,248	224,469	234,023	104,341	154,483	148,164
October	95,175	103,353	229,139	221,222	104,811	150,068	133,070
November	85,280	88,341	214,324	213,206	89,711	146,589	119,702
December	88,170	86,518	227,565	221,171	101,039	132,561	142,566
Total	1,214,325	1,302,519	2,672,157	2,837,867	1,268,645	1,506,977	1,748,393

TABLE No. I (Continued)—*Showing the Amount of Milk in Gallons Received Each Month at the Various Railroad Stations During* 1913 *and* 1914.

MONTHS.	W. M. R. R. Fulton Station.	N. C. R. R. Calvert Station.		N. C. R. R. President St. Station.		Monthly Totals for All Railroads.	
	1914.	1913.	1914.	1913.	1914.	1913.	1914.
January	115,818	174,674	174,802	10,776½	12,111	752,496½	735,902
February	109,646	167,432	165,231	9,984	10,747	655,452	691,064
March	118,925	190,260	186,625	11,436½	12,465	747,454½	771,357
April	115,904	190,644	182,342	12,579½	14,437	740,123½	786,790
May	128,912	219,137	212,548	17,651	18,097	891,720	907,070
June	127,449	209,290	213,754	18,474½	18,545	877,869½	872,060
July	117,670	204,308	205,352	17,816½	18,030	833,894½	808,962
August	165,889	203,191	197,903	16,816½	16,588	869,011½	875,165
September	167,356	184,724	190,673	14,093	14,445	787,856	868,228
October	162,573	183,613	178,225	13,100½	12,135	758,908½	827,576
November	158,805	170,560	161,876	11,832	10,470	691,409	779,287
December	171,197	177,457	177,000	11,870	11,810	748,667	800,257
Total	1,660,144	2,275,290	2,246,331	166,430½	169,880	9,345,860½	9,723,718

Dairy Farm Inspection.

Our dairy farm inspection force was increased by the addition of three men during the year, which now brings our total number of dairy farm inspectors up to six. With this number of inspectors, we are now in a position to thoroughly and systematically inspect the various dairy farms supplying milk to Baltimore city, and the methods of handling milk on these farms. During the year 1,458 farms were visited, as against 1,099 in 1913, and a total of 3,820 inspections were made of these farms, as against 1,548 in 1913. Two hundred and thirty-one of these inspections were made on 160 farms, and were special investigations following high counts in bacteria, streptococci and leucocytes. As a result of the instruction by our dairy farm inspectors and co-operation of the milk producers, the source of the trouble was probably eliminated on 141 of these farms and the remainder of the investigations could not be concluded on account of the confusion during the period of moving from the old to our present new quarters. The milk from four of these farms was excluded from the city, but two of them were allowed to resume shipment after the cause of trouble had been corrected. The veterinary examinations in these investigations show 196 cows nearly dry; 177 cows milked too soon after parturition; 40 sore udders, due to bruises, etc.; 15 cows sick with pneumonia, tuberculosis, etc.; 12 cases of abortion, and 25 cases of garget. As a result of these special investigations, the milk from 156 cows on these farms was excluded temporarily. As part causes of the high bacterial count, there were found: dirty utensils in 21 investigations; dirty dairies in 14; dirty stables in 46, and dirty barnyards in 36.

During the latter part of the year an outbreak of the foot and mouth disease occurred in various parts of the State of Maryland. Fortunately, only two farms supplying Baltimore city were infected with this disease, and these farms were promptly quarantined and the cattle slaughtered.

In general, the conditions on our producing farms have shown improvement, especially in the building of new barns and the remodeling of old ones. There is an increase in the percentage of farms using milk coolers and a decrease in the percentage of farms having no dairy house. Both of these conditions tend to show improvement. The percentage of farms using small-top milking pails is lower than the figure for 1913. This condition is one demanding prompt and vigorous action by our Department, and instructions will accordingly be issued to our inspectors requiring all farms to use the small-top milking pail. The necessity for the use of this type of pail is evident and should materially assist us in improving the quality of milk from our dairy farms. It is a regrettable fact that only 42 or 2.76 per cent. of the farms visited have tuberculin-tested herds. The importance of having milk from herds free from tuberculosis is of special interest from a health and economic standpoint. At the present time no steps are being taken by our State to prevent the spread of this disease, nor is there any regulation governing additions to dairy herds. Unless both of these latter conditions are met, it will be exceedingly difficult to do much effective work to prevent the spread of this disease in our dairy cattle. At the present time it does not seem practicable for Baltimore city to insist upon the tuberculin-testing of the dairy herds supplying the city with milk, so that the only safeguard which we can use against this disease is the proper pasteurization of our milk supply.

In Table No. II is shown the grouping of our dairy farms according to scores. Of these scores 75 per cent. scored between 40 and 60. The average score of farms was 49.16, as compared with 50.84 in 1913. This decrease in the average score is due, however, to the use of a new form of score-card, on which the system of scoring is more exact.

TABLE NO. II—*Showing Grouping of Dairy Farms by Score.*

SCORE.	Number.	Percentage.
Over 80	7	0.46
Between 70 and 80	7	0.46
Between 60 and 70	101	6.66
Between 50 and 60	509	33.53
Between 40 and 50	630	41.50
Between 30 and 40	134	8.83
Between 20 and 30	7	0.46
Below 20	2	0.13
Incomplete	121	7.97
Total	1,518	100.00

Number having tested herds	42	2.76
Number having small-top milk pails	120	7.90
Number having coolers	125	8.23
Number having no dairy house	332	21.87

Maximum score	88.00
Minimum score	12.45
Average score	49.16

Daily reports of contagious and infectious diseases have been received from the State Department of Health. As a result of these reports 15 investigations were made on account of the presence of these diseases on farms shipping milk, and as a result, there were two temporary exclusions of milk from Baltimore city, until all danger of infection was ended. These reports have been of great value to our Department, but their value could be further enhanced by a change in the method of reporting infectious diseases to the State Department of Health. At the present time we have no means of ascertaining whether or not a reported case is on a producing farm, unless the name corresponds to that of one of our shippers.

Under these conditions cases of disease may exist among the employes on these farms without coming to the notice of this Department. This objection can be overcome by the State Department of Health by the insertion of suitable items in the form of report used by attending physicians for such cases. Another source of difficulty is the lateness with which some physicians report their cases. Under the new system of organization proposed for the State Department of Health for next year, it would materially assist our Department if the district health officer would quarantine all farms on which infectious diseases occur and on which it would not be possible to safely permit the continued shipment of milk, pending the duration of the particular disease.

There has been a further reduction in the number of nearby farms hauling milk into the city. At the end of the year 105 farms were producing milk within a short hauling distance of the city. This is a decrease of 11 for the same class of producers in 1913.

The regulation regarding slop feeding which was formulated by the Commissioner of Health in 1913 has not come up for settlement in the courts. Until a decision is rendered on the validity of this regulation, our hands are practically tied in correcting the abuses due to the insanitary practice of such feeding.

City Milk Work.

As pointed out in previous reports, the store question and the distribution of bulk milk by stores and wagons still continue to be among the serious problems in our distribution of milk. Attention must again be directed to the inadequacy of our laws governing the sanitary condition of these establishments as well as to the necessity for the prohibition of the sale of loose or bulk milk, except under certain special conditions.

The equipment and sanitary condition of dairies must also receive most careful attention, and as a result of our study of local conditions, a new set of dairy regulations will be issued in the early part of the coming year.

The plan for handling the revocation of milk permits in the city, as outlined in our report of 1913, has been followed throughout the year. This plan has worked out satisfactorily and has served to impress on the holders of permits the necessity for a strict compliance with our existing regulations. During the year 171 permits for the sale of milk were temporarily revoked on account of violations of our rules and regulations governing the handling of milk; 24 revocations were made permanent, so that at the present time there are 37 revocations of milk permits in Baltimore city, which revocations are permanent. On December 31, 1914, thirty-nine hundred and five permits for the sale of milk were in operation, these including stores, dairies and lunchrooms.

Chart No. 1 shows the distribution of milk by the dairies. The fact that the ten largest dairies only distribute a little more than 50 per cent. of the total distribution directs our attention to another source of difficulty surrounding our local distribution of milk. It is interesting also to note that six dairies are now distributing bottled milk only, whereas three distributed bottled milk only during 1913. In 1914, twenty-two dairies distributed loose milk only, whereas in 1913 there were only ten dairies distributing loose milk only. This increase in the number of dairies distributing loose milk only is regrettable, but can only be overcome by a suitable law regulating this practice. The remaining dairies distribute both bulk and bottled milk. Our largest pasteurizing dairies are included in this group and yet the amount of bulk milk distributed by these dairies is comparatively small, compared to the total volume of their output.

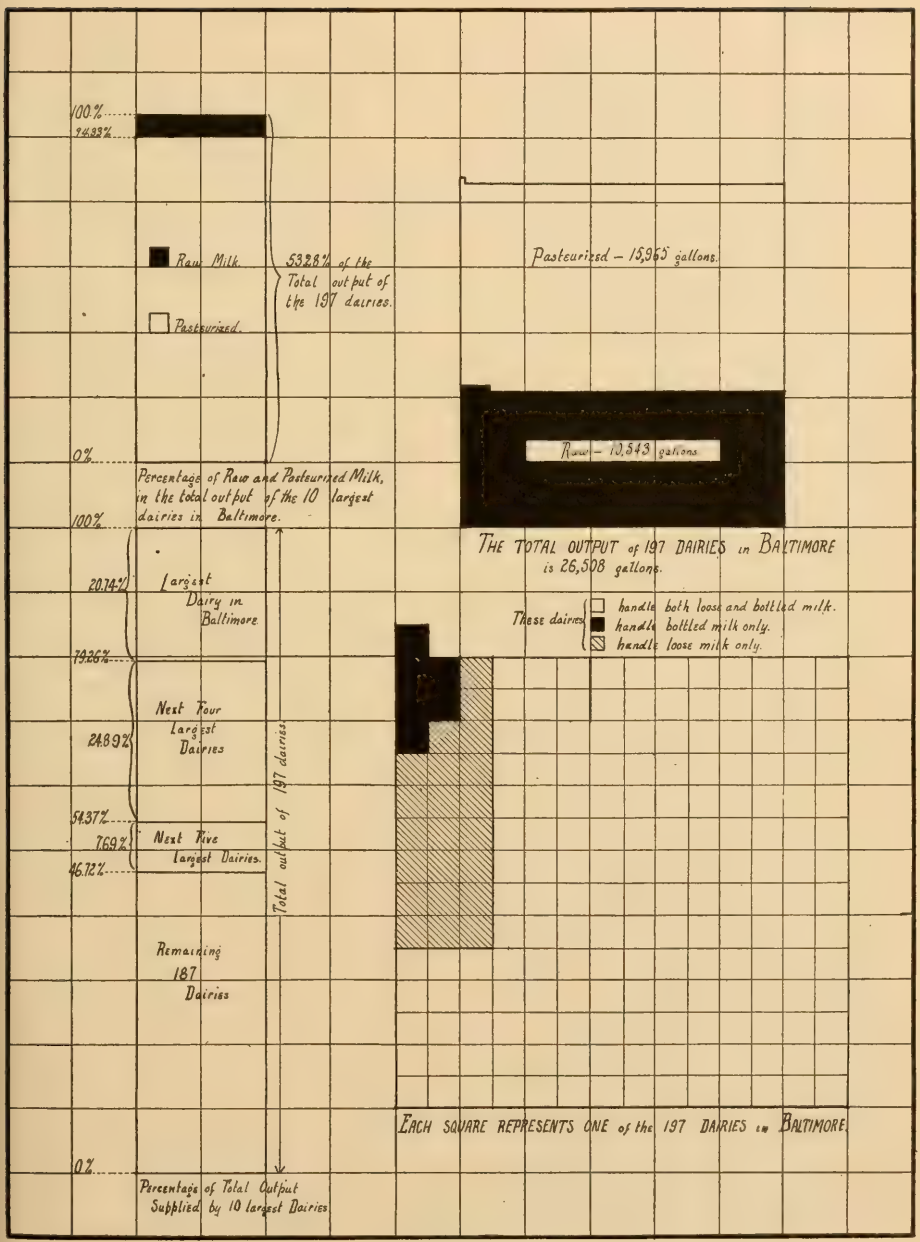

100%
14.33%
Raw Milk.
Pasteurized.
53.28% of the Total output of the 197 dairies.
0%
Percentage of Raw and Pasteurized Milk, in the total output of the 10 largest dairies in Baltimore.
100%
20.74%
Largest Dairy in Baltimore
79.26%
Next Four Largest Dairies
24.89%
54.37%
7.69%
Next Five Largest Dairies.
46.72%
Total output of 197 dairies
Remaining 187 Dairies
0%
Percentage of Total Output Supplied by 10 largest Dairies
Pasteurized – 15,965 gallons.
Raw – 10,543 gallons.
THE TOTAL OUTPUT of 197 DAIRIES in BALTIMORE is 26,508 gallons.
These dairies handle both loose and bottled milk.
handle bottled milk only.
handle loose milk only.
EACH SQUARE REPRESENTS ONE of the 197 DAIRIES in BALTIMORE

CHART No. 1.

Table No. III contains a summary of the work accomplished by our milk inspectors during 1914. Of the total amount of milk received at the railroad depots, only 5.2 per cent. was inspected. This is a decrease of nearly 1 per cent. in the amount of milk inspected, as compared with 1913, and is due to the fact that in the increase of the number of bacteriological samples taken at the depots, our inspectors are not able to inspect as many cans of milk as formerly. During the year 6,659½ gallons of milk were condemned and returned to the producer. Up to this year it has been the practice of the Department to destroy all milk which had been condemned as unfit for use. This practice resulted in a great deal of criticism and naturally aroused much opposition on the part of the milk producer. In order to overcome these objections it was suggested by the United States Department of Agriculture that a solution of rennin be added to condemned milk so that the milk could be utilized for stock feeding purposes. The purpose of this addition of rennin is to coagulate the milk and thus render it unfit for human consumption as milk. This suggestion of the government department was adopted by our Department in the early part of the year, and has been in constant use since that time. It is gratifying to report that no criticism has been heard of this method of handling condemned milk.

TABLE No. III—*Showing Amount of Work Done by Milk Inspectors, by Months, During* 1914.

MONTHS.	Amount of Milk Received at Depots. (Gals.)	Amount of Milk Examined. (Gals.)	Amount of Milk Condemned. (Gals.)	Dairy and Milk Shop Inspections.			Wagon Inspections.	Railroad Depots Visited.
				Dairies.	Lunch-rooms.	Milk Shops.		
January	735,902	45,855	767	131	192	608	640	139
February	691,064	34,495	343	102	153	557	440	114
March	771,357	49,598	318¾	133	206	1,016	552	134
April	786,790	50,657	914	128	156	829	379	134
May	907,070	48,195	1,071	100	158	897	343	135
June	872,060	48,125	792	229	143	685	220	158
July	898,962	36,730	690	428	78	1,054	52	161
August	875,165	36,275	386¾	261	93	1,025	57	144
September	868,228	36,750	239	507	116	979	274	126
October	827,576	44,380	306	555	91	1,051	416	163
November	779,287	36,333	503	515	49	795	351	121
December	800,257	43,315	269	611	99	866	467	137
Total	9,723,718	510,728	6,659½	5,700	1,534	10,362	4,201	1,666

Whenever a case of infectious or contagious disease occurs on a premise where milk is sold, the permit for the sale of milk or cream from that premise is temporarily revoked until all danger of infection is over. The number of these quarantines is presented in tabular form in Table No. IV.

TABLE No. IV—*Showing Number of Places Quarantined on Account of Communicable Diseases, by Months, During* 1914.

DISEASES.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
Typhoid fever	...	...	...	...	1	3	1	2	1	...	2	3	13
Scarlet fever	2	1	...	1	1	1	...	1	2	...	1	...	10
Diphtheria	1	3	3	...	...	...	1	...	...	2	5	1	16
Measles	2	1	...	...	1	1	...	...	...	...	...	1	6
Tuberculosis	...	...	1	...	...	1	...	...	...	...	...	...	2
Foot and mouth disease	...	...	...	...	...	...	...	...	...	2	...	...	2
Total for year	5	5	4	1	3	6	2	3	3	4	8	5	49

Table No. V shows the incidence of infectious diseases on the routes of the various distributing dairies. The total number of cases considered in this table is 262 less than in 1913. This decrease in the total number of cases is due to the decrease of typhoid and scarlet fever cases, the former amounting to 196, and the latter to 109. An increase of 41 cases of diphtheria is noted, as compared with 1913.

TABLE NO. V—*Showing Cases of Communicable Diseases Reported on Dairymen's Routes, by Months, During* 1914.

MONTHS.	Diphtheria.	Scarlet Fever.	Typhoid Fever.	Total.
January	85	46	11	142
February	71	53	2	126
March	65	69	5	139
April	29	60	4	93
May	32	27	17	76
June	26	46	33	105
July	23	27	39	89
August	42	14	67	123
September	56	8	97	161
October	90	12	60	162
November	86	28	56	170
December	109	60	50	219
Total	714	450	441	1,605

Tables Nos. VI to IX give the average percentage of butterfat and total number of samples above and below the legal standard for station, wagon, store and lunchroom samples. Each of these tables shows an improvement in the percentage of butterfat as compared with the same type of samples collected during 1913 and are the highest figures yet recorded in the history of our Department. This improvement is further noted in the percentage of the different types of samples fall-

ing below the legal standard, as noted in the following summary:

Per Cent. of Samples Below Standard of 3.5 Per Cent.

Year.	Station.	Wagon.	Store.	Lunchroom.
1913	13.0	27.8	43.1	29.9
1914	11.3	22.9	34.4	25.0

The improvement in the wagon, store and lunchroom samples is due, to a considerable degree, to the system inaugurated in the month of April by which samples of milk collected from distributing wagons were all sealed samples, as required by the law whenever a prosecution was to be instituted. I believe that this method has influenced the distributing dairyman to exercise greater care in the handling of the milk, so far as preventing loss of butterfat is concerned, and has also influenced them to hold the producers accountable for the shipment of milk in accordance with our legal standard.

Table No. VI—*Record of Station Samples*, 1914.

Months.	Per Cent. Fat.	Number Above Legal Standard.	Number Below Legal Standard.	Total.
January	4.08	1,114	140	1,254
February	4.00	854	123	977
March	4.08	1,074	133	1,207
April	3.92	810	174	984
May	4.01	772	172	944
June	3.98	790	134	924
July	4.09	446	42	488
August	4.06	947	130	1,077
September	4.21	733	82	815
October	4.45	931	41	972
November	4.28	543	29	572
December	4.30	779	44	823
Average and total	4.12	9,793	1,244	11,037

TABLE NO. VII—*Record of Wagon Samples*, 1914.

MONTHS.	Per Cent. Fat.	Number Above Legal Standard.	Number Below Legal Standard.	Total.
January	3.79	396	132	528
February	3.82	214	95	309
March	3.81	207	88	295
April	3.82	79	28	107
May	3.75	67	29	96
June	3.78	77	17	94
July	4.10	13	2	15
August	3.73	22	4	26
September	3.98	102	20	122
October	3.92	166	24	190
November	3.90	144	27	171
December	4.01	142	20	162
Average and total	3.86	1,629	486	2,115

TABLE NO. VIII—*Record of Store Samples*, 1914.

MONTHS.	Per Cent. Fat.	Number Above Legal Standard.	Number Below Legal Standard.	Total.
January	3.51	124	77	201
February	3.81	128	53	181
March	3.83	261	133	394
April	3.65	219	140	359
May	3.48	195	167	362
June	3.69	309	224	533
July	3.63	194	114	308
August	3.61	222	89	311
September	3.68	283	131	414
October	3.73	355	167	522
November	3.70	231	83	314
December	3.75	254	77	331
Average and total	3.67	2,775	1,455	4,230

TABLE NO. IX—*Record of Lunchroom Samples*, 1914.

MONTHS.	Per Cent. Fat.	Number Above Legal Standard.	Number Below Legal Standard.	Total.
January	3.78	123	36	159
February	3.59	23	12	35
March	3.91	109	44	153
April	3.81	118	44	162
May	3.89	95	46	141
June	3.71	100	42	142
July	3.75	34	10	44
August	3.94	49	17	66
September	411	81	16	97
October	4.20	60	12	72
November	3.80	36	7	43
December	4.00	61	12	73
Average and total	3.87	889	298	1,187

PASTEURIZING DAIRIES.

The past year marks a still further increase in the number of pasteurizing dairies operating in our city. At the end of the year there were 28 pasteurizing dairies as compared with 19 such plants in 1913. Of these 28 dairies 10 are using the holding, and 18 the flash system of pasteurization. All the dairies using the holding system are exposing the milk for periods of from 20 to 35 minutes, at a temperature of 140 to 145 degrees Fahrenheit. The nine new pasteurizing dairies all installed the flash system of pasteurization. The continued increase in the number of pasteurizing dairies emphasizes the necessity for an ordinance regulating and defining the process of pasteurization. This is further emphasized by the fact that the recent pasteurizing dairies are installing the flash type of pasteurizer. It is now clearly recognized by authorities that the holding type of pasteurizer is the only satisfactory and

reliable type of pasteurizing apparatus. Proper pasteurization is the best safeguard that any city can have in its efforts to distribute a safe milk supply, and so it is imperative that our Department be given the proper legal authority to effectively control the installation and operation of pasteurizing plants. The difficulties already encountered and objectionable features noted in our pasteurizing plants were detailed in our 1913 report. The conditions there learned and followed by a more detailed study of these plants in 1914 has furnished us with the necessary data on which to base our pasteurization requirement. I cannot express too strongly the urgent necessity for the prompt formulation of suitable regulations to control this important process.

During the latter part of the year an investigation was conducted to determine the efficiency of the various pasteurizing plants. Whereas, there were 28 pasteurizing dairies, we were only able to conclude our investigations of 21 at the end of the year. Table No. X gives the result of this study in the bacterial counts of the raw milk, the pasteurized milk prior to bottling, and the bottled milk as delivered to the consumer. From this data the efficiency of the various dairies can be readily determined. This table summarizes the bacterial counts of the routine pasteurized milk examinations of the bacteriological laboratory and simultaneously compares the classified results of our special examinations.

It will be noted that the bacterial counts, with few exceptions, agree in both investigations. Of the "Raw Milk" examinations, 17 of the 21 dairies, or 81 per cent., are below our bacteriological standard of 500,000 bacteria per cubic centimeter for raw milk. Of the "Milk After Pasteurization" examinations, 19, or 90 per cent., of the dairies showed counts below our standard of 50,000 bacteria per cubic centimeter for pasteurized milk.

However, when the bacterial count of the original package is observed, it is obvious that contamination has occurred be-

tween the time of pasteurization and delivery, or that a rapid development of the bacteria present in the pasteurized milk has taken place. Only 6, or 29 per cent., of the dairies show counts below our standard for pasteurized milk, as delivered to the consumer. This decrease of 61 per cent. can be attributed to two primary causes. The first is dirty bottles. In this investigation the bottles were examined by rinsing them with 10 cubic centimeters of sterile water and making a bacterial count of this entire volume. This count determines the number of bacteria adhering to the sides of the bottle and is expressed as "Bacteria per Bottle." Assuming that a count of 1,000 bacteria per bottle represents a fairly clean bottle, it will be seen that 13 of the 21 dairies, or 62 per cent., were using dirty bottles. This figure agrees closely with the percentage of dairies exceeding the bacterial standard for pasteurized milk. This strikingly illustrates the necessity of insisting, as far as practical means are concerned, upon a sterile bottle or container.

The second, and no less minor consideration, is the type of refrigerator employed for the storage of milk after bottling. Only eight of the 21 dairies have efficient refrigerators. It is the practice with many of the dairymen to dispense with the use of ice during the winter months and to rely upon the atmospheric temperature for refrigeration. The result is that on some days the temperature is sufficiently low to check bacterial growth, while on others it may be high enough to cause marked increase in the bacterial count. Therefore, it is essential to provide an adequate storage temperature for the milk.

While the examination of the bacterial counts for "Milk After Pasteurization" shows a fairly efficient pasteurization on the one hand, on the other it emphasizes the necessity for automatic regulation of the temperature at which the pasteurization is conducted. Mention is made of this because the results obtained show wide variations in counts.

TABLE No. X—*A Survey of the Equipment and a Study of the Efficiency of the Pasteurizing Dairies, November-December, 1914.*

(All bacterial counts are expressed in terms of the Levy rating.)

No. of Dairy.	Clarifier and Make.	Pasteurizer and Make.	Holder and Make.	Cooler and Make.	Sterilizer for Bottles and Make.	Kind of Examination.	Milk Before Pasteurization.		Milk After Pasteurization, Collected from Bottling Machine.		Colon.			Milk as Delivered to the Consumer (Original Pkge).		Colon.			Bottles.
							No. of Examinations.	Bacterial Count per c. c.	No. of Examinations.	Bacterial Count per c. c.	No. of Examinations.	No. Positive.	Percentage Positive.	No. of Examinations.	Bacterial Count per c. c.	No. of Examinations.	No. Positive.	Percentage Positive.	Bacteria per Bottle.
Dairy No. 25	None employed	Reid, hand controlled	None employed	Reid, open type	None employed	Milk laboratory examination.	5	450,970	5	87,400	5	3	60	7	400,000	7	4	57	128,000
						Special		Below 500,000		Below 50,000					None made.				
Dairy No. 1	None employed	Reid, automatic control, record, ther.	Kaestner (23 min.)	Davis, closed type	Quaker City	Milk laboratory examination.	4	61,500	4	8,920	4	3	75	16	143,000	16	15	93	Sterile.
						Special		Below 500,000		Below 50,000					None made.				
Dairy No. 3	None employed	Reid, hand controlled	None employed	Reid, open type	None employed	Milk laboratory examination.	5	500,000	5	45,000	5	1	20	8	150,000	10	1	10	46,500
						Special		Below 500,000		Below 50,000					None made.				
Dairy No. 4	None employed	Reid, hand controlled	None employed	Reid, open type	None employed	Milk laboratory examination.	4	200,000	4	20,000	4	0	0	10	100,000	10	6	60	100,000
						Special		Below 500,000		Below 50,000					None made.				
Dairy No. 5	None employed	Reid, hand controlled	None employed	Reid, open type	None employed	Milk laboratory examination.	4	98,000	4	4,800	4	0	0	9	100,000	10	3	30	2,500
						Special		Below 500,000		Below 50,000					None made.				
Dairy No. 7	None employed	Reid, hand controlled	Reid (30 min.)	Reid, open type	None employed	Milk laboratory examination.	5	600,000	5	800	5	2	40	9	100,000	10	7	70	184,000
						Special		Above 500,000		Below 50,000					None made.				
Dairy No. 8	None employed	Reid, hand controlled	None employed	Reid, open type	None employed	Milk laboratory examination.	4	400,000	4	83,000	4	1	25	10	200,000	10	7	70	18,500
						Special		Below 500,000		Below 50,000					None made.				
Dairy No. 10	De Laval Clarifier	Root, automatic control, record, ther.	Willman (30 min.)	Reid, covered type	Davis	Milk laboratory examination.	5	300,000	5	23,000	5	3	60	10	41,000	10	4	25	Sterile.
						Special		Below 500,000		Below 50,000					None made.				
Dairy No. 11	None employed	Reid, hand controlled	None employed	Reid, open type	None employed	Milk laboratory examination.	4	150,000	4	6,000	4	1	25	10	200,000	10	5	50	43,50
						Special		Below 500,000		Below 50,000					None made.				
Dairy No. 13	None employed	Hot water surrounding cans	Held 145° F. (30 min.)	Cold water surrounding cans.	None employed	Milk laboratory examination.	5	77,000	5	1,900	5	0	0	8	1,600	8	0	0	Not exam'd.
						Special		None made.		None made.					None made.				
Dairy No. 14	None employed	Reid, automatic control, record, ther.	Reid (30 min.)	Reid, covered type	Modified Quaker City.	Milk laboratory examination.	5	400,000	5	11,000	5	0	0	10	14,000	16	1	6.2	1,000
						Special		Below 500,000		Below 50,000					None made.				
Dairy No. 15	None employed	Reid, hand controlled	None employed	Reid, open type	None employed	Milk laboratory examination.	4	500,000	4	45,000	4	1	25	10	100,000	10	4	40	*2,550,000
						Special		Above 500,000		Above 50,000					None made.				
Dairy No. 16	None employed	Reid, hand controlled	None employed	Reid, open type	None employed	Milk laboratory examination.	3	100,000	3	18,000	3	1	33	10	50,000	10	4	40	25,000
						Special		Above 500,000		Below 50,000					None made.				
Dairy No. 17	None employed	Reid, hand controlled	None employed	Reid, open type	None employed	Milk laboratory examination.	3	700,000	1	25,000	3	1	33	10	100,000	10	1	10	Not exam'd.
						Special		Below 500,000		Below 50,000					None made.				
Dairy No. 19	De Laval Clarifier	Willman, automatic control, record, ther.	Reid (30 min.)	Reid, open type	Davis	Milk laboratory examination.	4	350,000	3	4,600	4	0	0	10	5,500	10	0	0	Sterile.
						Special		Below 500,000		Below 50,000					None made.				
Dairy No. 20	None employed	Bottle pasteurization		Cold water surrounding bottles.	None employed	Milk laboratory examination.	1	100,000	1	18,000	1	0	0	6	850,000	6	4	66	Not exam'd.
						Special		None made.		None made.					None made.				
Dairy No. 21	None employed	Reid, hand controlled	None employed	Reid, open type	None employed	Milk laboratory examination.	4	2,500,000	3	17,000	1	0	0	10	56,000	10	4	40	43,000
						Special		Below 500,000		Below 50,000					None made.				
Dairy No. 22	None employed	Reid, hand controlled	Reid (30 min.)	Reid, open type	Quaker City	Milk laboratory examination.	4	450,000	4	8,200	1	0	0	10	6,800	10	1	10	37,000
						Special		Below 500,000		Below 50,000					None made.				
Dairy No. 23	None employed	Reid, hand controlled	None employed	Reid, open type	None employed	Milk laboratory examination.	4	1,500,000	4	18,000	4	0	0	10	74,000	10	1	10	194,000
						Special		Above 500,000		Below 50,000					None made.				
Dairy No. 24	None employed	Reid, hand controlled	None employed	Reid, open type	Quaker City	Milk laboratory examination.	4	200,000	4	20,000	4	2	50	9	21,000	10	8	80	5,000
						Special		Below 500,000		Below 50,000					None made.				
Dairy No. 26	None employed	Reid, hand controlled	None employed	Reid, open type	Quaker City	Milk laboratory examination.	4	200,000	4	15,000	4	0	0	10	54,000	10	6	60	22,000
						Special		Below 500,000		Above 50,000					None made.				

*Approximate.

	Per Cent.
Percentage of dairies employing clarifiers	.09
Percentage of dairies employing automatic controls	19.00
Percentage of dairies employing holding system	28.00
Percentage of dairies employing sterilizers for bottles	33.00
Percentage of dairies receiving milk below the raw-milk standard of 500,000 bacteria per c. c.	81.00
Percentage of dairies producing milk after pasteurization below the pasteurized-milk standard of 50,000 bacteria per c. c.	90.00
Percentage of dairies producing pasteurized milk, as delivered to the consumer, below the pasteurized-milk standard of 50,000 bacteria per c. c.	29.00
Percentage of dairies using dirty bottles	62.00

In October a new line of work was begun in connection with and supplemental to the work of the supervision of pasteurizing dairies. The object of this work is not only to determine the numerical bacterial count or quantitative examination, but also the differential bacterial content or qualitative examination. Milk may comply with the quantitative requirements of a regulation and still be dangerous by containing a pathogenic organism.

These 28 dairies have a total daily output of 16,966 gallons of milk and 623 gallons of cream. Of the total amount of milk produced by these dairies, 14,692 gallons are bottled, and 2,274 gallons are delivered in bulk. For details of the bacteriological examinations of milk from the pasteurizing dairies, the reader is referred to the report of the Division of Bacteriology.

Table No. XI shows the summarized bacteriological data on our various types of milk, exclusive of pasteurized milk. The increase noted in the average bacterial count for each class of milk, as compared with the corresponding figures for 1913, is probably due to the large increase in the number of samples examined and to the high temperature conditions which prevailed during the summer months. This factor is especially noticeable in the averages for the months of May, June, July, August, September and October. The results in the remaining months of the year compared favorably with the results obtained during the same period of the preceding year.

TABLE No. XI—*Showing Summarized Bacterial Data on Various Types of Milk Samples Collected by Months During* 1914.—STATIONS.

MONTHS.	Number of Samples Examined.	Number of Samples 500,000 or Under.	Percent of Samples Under 500,000.	Number of Samples 100,000 or Under.	Number of Samples Above 500,000.	Number of Samples Between 500,000 and 1,000,000.	Number of Samples Between 1,000,000 and 3,000,000.	Number of Samples Between 3,000,000 and 5,000,000.	Number of Samples Between 5,000,000 and 10,000,000.	Number of Samples Above 10,000,000.	Maximum Bacterial Count.	Minimum Bacterial Count.	Average Bacterial Count.	Maximum Temperature (Milk).	Minimum Temperature (Milk).	Average Temperature (Milk).	Air Temperature.	Deaths 2 Years of Age and Under.	Deaths 2 Years of Age and Under Due to Intestinal Diseases.
January.....	386	313	80.6	210	73	35	22	4	11	1	13,000,000	2,000	573,800	60	30	43.3	37.6	163	9
February.....	458	422	92.1	320	36	24	10	1	1	0	6,000,000	1,000	173,800	61	30	38.9	30.3	185	6
March.....	796	796	86.05	596	129	48	51	10	13	7	50,000,000	1,000	535,300	74	30	44.4	39.5	209	11
April.....	777	552	71.0	266	225	65	76	30	41	13	18,000,000	5,000	1,209,700	72	38	52.3	53.1	188	10
May.....	503	254	50.9	91	249	54	84	23	58	30	60,000,000	1,000	2,421,800	74	42	59.1	67.9	175	11
June.....	639	263	41.1	71	376	74	116	63	78	45	130,000,000	10,000	4,062,000	72	52	61.7	74.4	141	28
July.....	278	92	33.1	33	186	27	51	48	34	26	160,000,000	10,000	6,615,900	72	56	63.7	76.3	305	161
August.....	123	47	38.2	25	76	10	31	12	14	9	75,000,000	4,000	5,111,900	74	52	64.6	76.8	286	132
September.....	277	132	47.7	53	145	38	49	21	16	21	70,000,000	10,000	3,358,800	74	46	60.0	66.8	204	82
October.....	713	354	49.6	150	359	88	93	45	78	55	100,000,000	300	3,412,000	74	42	56.5	61.5	171	55
November.....	764	641	83.9	481	123	30	49	18	16	10	32,000,000	20	744,500	72	32	49.9	47.0	179	44
December.....	791	666	84.2	514	125	49	46	15	11	4	80,000,000	1,000	622,500	66	30	45.4	33.4	142	15
Total.....	6634	4532	68.31	2810	2102	542	678	290	371	221	.....	.....	1,872,547	...	...	....	....	2348	564

TABLE No. XI (Continued)—*Showing Summarized Bacterial Data on Various Types of Milk Samples Collected by Months During* 1914.—WAGONS.

MONTHS.	Number of Samples Examined.	Number of Samples 500,000 or Under.	Percent of Samples Under 500,000.	Number of Samples 100,000 or Under.	Number of Samples Above 500,000.	Number of Samples Between 500,000 and 1,000,000.	Number of Samples Between 1,000,000 and 3,000,000.	Number of Samples Between 3,000,000 and 5,000,000.	Number of Samples Between 5,000,000 and 10,000,000.	Number of Samples Above 10,000,000.	Maximum Bacterial Count.	Minimum Bacterial Count.	Average Bacterial Count.	Maximum Temperature (Milk).	Minimum Temperature (Milk).	Average Temperature (Milk).	Air Temperature.	Deaths 2 Years of Age and Under.	Deaths 2 Years of Age and Under Due to Intestinal Diseases.
January	64	29	45.3	10	35	9	14	4	5	3	37,000,000	12,000	2,576,700	50	30	41.3	....	....	....
February	70	49	70.0	13	21	9	9	2	1	0	8,000,000	20,000	736,600	46	30	36.6	....	....	....
March	254	102	40.2	49	152	39	45	17	32	19	70,000,000	10,000	3,584,700	74	30	43.1	....	....	....
April	160	40	25.0	10	120	23	38	23	18	18	70,000,000	10,000	5,152,500	68	36	48.7	....	....	....
May	82	22	26.8	5	60	6	17	12	7	18	60,000,000	10,000	7,004,100	70	38	51.2	....	....	....
June	50	14	28.0	1	36	5	7	1	14	9	90,000,000	30,000	6,290,000	74	42	51.2	....	....	....
July	5	2	40.0	0	3	0	1	1	0	1	30,000,000	270,000	7,426,000	52	44	47.5	....	....	....
August	15	3	20.0	3	12	1	2	5	3	1	33,000,000	20,000	5,222,000	58	44	50.2	....	....	....
September	66	17	25.8	6	49	10	15	5	4	15	55,000,000	10,000	6,736,500	80	40	50.8	....	....	....
October	157	54	34.4	12	103	11	21	25	24	22	90,000,000	20,000	6,072,000	64	42	48.9	....	....	....
November	137	89	65.0	33	48	11	17	8	7	5	250,000,000	10,000	3,003,200	52	32	44.3	....	....	....
December	146	113	77.4	50	33	7	9	9	5	3	14,000,000	5,000	1,049,000	54	30	40.8	....	....	....
Total	1206	534	44.27	192	672	131	195	112	120	114	.....	.....	4,407,047	....	....	....	....	....	....

TABLE No. XI (Continued)—*Showing Summarized Bacterial Data on Various Types of Milk Samples Collected by Months During* 1914.—STORES.

MONTHS.	Number of Samples Examined.	Number of Samples 500,000 or Under.	Percent of Samples Under 500,000.	Number of Samples 100,000 or Under.	Number of Samples Above 500,000.	Number of Samples Between 500,000 and 1,000,000.	Number of Samples Between 1,000,000 and 3,000,000.	Number of Samples Between 3,000,000 and 5,000,000.	Number of Samples Between 5,000,000 and 10,000,000.	Number of Samples Above 10,000,000.	Maximum Bacterial Count.	Minimum Bacterial Count.	Average Bacterial Count.	Maximum Temperature (Milk).	Minimum Temperature (Milk).	Average Temperature (Milk).	Air Temperature.	Deaths 2 Years of Age and Under.	Deaths 2 Years of Age and Under Due to Intestinal Diseases.
January.....	55	11	20.0	4	44	10	18	7	5	4	30,000,000	10,000	3,314,700	50	42	46.5	....	....	....
February.....	171	107	62.5	45	64	16	27	13	4	4	30,000,000	3,000	1,386,100	56	30	38.7	....	....	....
March.....	212	138	65.1	64	74	19	28	12	5	10	50,000,000	10,000	1,853,600	54	30	43.6	....	....	....
April.....	184	34	18.5	7	150	14	46	19	32	39	130,000,000	10,000	10,199,800	60	35	48.5	....	....	....
May.....	120	23	19.1	8	98	10	20	12	15	40	120,000,000	3,000	5,820,000	70	30	50.8	....	....	....
June.....	101	14	13.9	3	87	6	25	17	13	26	100,000,000	20,000	10,068,800	68	38	51.6	....	....	....
July.....	31	4	12.9	0	27	1	4	3	7	12	70,000,000	110,000	12,900,000	64	44	48.6	....	....	....
August.....	48	12	25.0	5	36	4	7	4	5	16	40,000,000	10,000	9,132,700	60	42	51.6	....	....	....
September.....	64	10	15.6	5	54	3	8	10	7	26	70,000,000	10,000	12,751,600	62	45	50.5	....	....	....
October.....	96	17	17.7	4	79	9	17	15	14	24	90,000,000	10,000	9,220,600	54	40	48.8	....	....	....
November.....	30	19	63.3	10	11	5	1	0	1	4	24,000,000	20,000	3,062,300	50	36	44.7	....	....	....
December.....	48	31	64.5	19	17	2	8	5	0	2	25,000,000	10,000	1,684,000	50	30	42.7	....	....	....
Total.....	1160	420	36.2	174	741	99	209	117	108	208	.....	.....	6,143,821	....	....	....	....	....	....

TABLE No. XI (Continued)—*Showing Summarized Bacterial Data on Various Types of Milk Samples Collected by Months During* 1914.—LUNCHROOMS.

MONTHS.	Number of Samples Examined.	Number of Samples 500,000 or Under.	Percent of Samples Under 500,000.	Number of Samples 100,000 or Under.	Number of Samples Above 500,000.	Number of Samples Between 500,000 and 1,000,000.	Number of Samples Between 1,000,000 and 3,000,000.	Number of Samples Between 3,000,000 and 5,000,000.	Number of Samples Between 5,000,000 and 10,000,000.	Number of Samples Above 10,000,000.	Maximum Bacterial Count.	Minimum Bacterial Count.	Average Bacterial Count.	Maximum Temperature (Milk).	Minimum Temperature (Milk).	Average Temperature (Milk).	Air Temperature.	Deaths 2 Years of Age and Under.	Deaths 2 Years of Age and Under Due to Intestinal Diseases.
January	10	2	20.0	0	8	0	3	3	0	2	21,000,000	170,000	5,397,000	50	42	46.1	....	....	....
February	94	63	67.0	27	31	6	15	3	6	1	17,000,000	20,000	1,285,100	56	32	41.3	....	....	....
March	190	100	52.6	47	90	18	25	16	18	13	45,000,000	10,000	3,213,000	75	32	42.9	....	....	....
April	120	42	35.0	22	78	5	24	17	12	20	90,000,000	2,000	7,572,800	56	30	44.3	....	....	....
May	43	19	44.2	7	24	1	3	3	4	13	700,000,000	20,000	24,493,400	64	35	40.6	....	....	....
June	35	2	5.7	0	33	2	9	8	7	7	80,000,000	30,000	8,346,000	66	32	48.2	....	....	....
July	6	3	50.0	2	3	0	0	1	1	1	60,000,000	10,000	11,943,300	54	42	47.3	....	....	....
August	48	12	25.0	4	36	3	7	5	3	18	100,000,000	20,000	17,755,625	64	38	48.1	....	....	....
September	59	6	10.2	1	53	6	12	10	8	17	60,000,000	40,000	9,467,300	66	32	45.4	....	....	....
October	38	7	18.4	1	31	2	6	7	9	7	20,000,000	90,000	6,096,000	66	38	47.6	....	....	....
November*	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
December*	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Total	643	256	39.81	111	387	43	104	73	68	99	....	....	7,390,648	....	....	....	....	....	....

*No data obtained.

Chart No. 2 graphically portrays the percentage of samples between various bacterial counts for the years 1912, 1913 and 1914.

Bakery Inspection.

Table No. XII shows the number of bakery inspections and number ordered cleaned, by months, throughout the year. In general, the conditions in our bakeries are fair, but entirely too great a proportion of them are still operating in underground establishments. It is highly desirable that a reasonable and effective bakery ordinance be established to correct existing conditions and to formulate suitable regulations for the conduct of such establishments.

Table No. XII—*Showing Bakery Inspection by Months During* 1914.

Months.	Bakeries Examined.	Bakeries Ordered Cleaned.
January	298	5
February	277	6
March	294	7
April	284	6
May	247	7
June	278	9
July	279	51
August	142	4
September	251	5
October	289	6
November	269	6
December	261	7
Total	3,169	119

Abattoir and Slaughter-House Inspection.

What was said in our 1913 report under this heading is equally applicable this year. By far the greater percentage of our local plants are not under United States Government inspection. Our State also has no system of inspection. Under

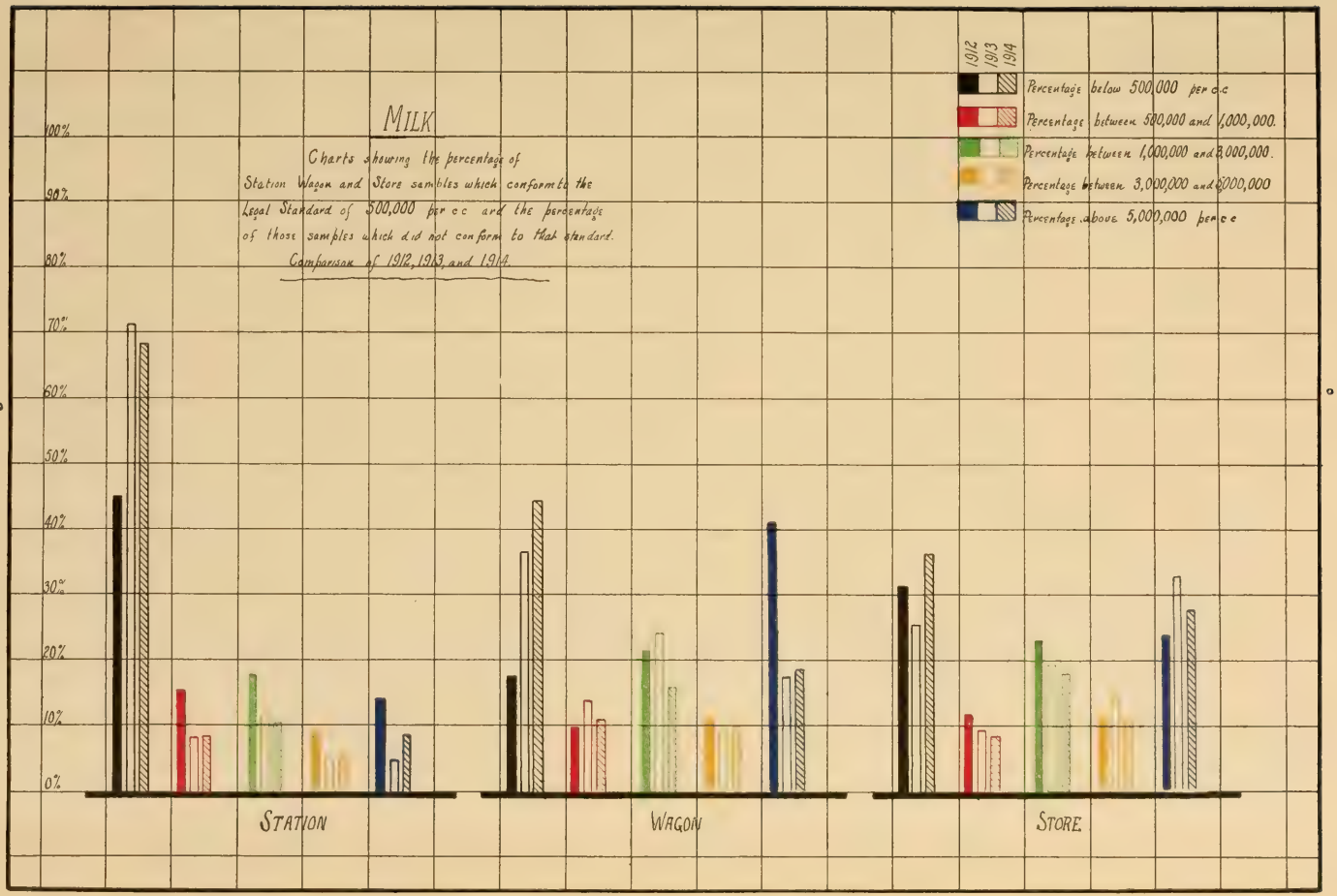

MILK
Charts showing the percentage of Station Wagon and Store samples which conformed to the Legal Standard of 500,000 per c c and the percentage of those samples which did not conform to that standard.
Comparison of 1912, 1913, and 1914.
1912
1913
1914
Percentage below 500,000 per c.c
Percentage between 500,000 and 1,000,000.
Percentage between 1,000,000 and 3,000,000.
Percentage between 3,000,000 and 5000,000
Percentage above 5,000,000 per c c
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
STATION
WAGON
STORE

CHART NO. 2.

these conditions the inspections of all these establishments falls to the duty of one inspector. Obviously, many carcasses are now slaughtered without any inspection whatever and the consumer has to rely on the honesty of the proprietor in excluding diseased carcasses from the product of the plant. The slaughtering of all animals intended for human consumption should be under the most careful supervision, and all carcasses passing such inspection should bear a suitable inspection stamp. I therefore recommend that a suitable ordinance be drafted to cover the equipment and sanitary condition of these plants, requiring that all carcasses or parts of carcasses exposed for sale in the City of Baltimore shall come from plants under either government or municipal inspection. In order to carry out the details of such an ordinance and to better protect our citizens, an increase in our inspection force is urgently needed.

General Food Inspection.

Table No. XIII shows the number and character of the inspections made by the food inspectors, by months, during the year 1914. A classification of the various foodstuffs condemned in these inspections, as well as by the abattoir inspector, will be found in Table No. XV. With only three food inspectors available for general food work in the city it is apparent that much needed inspection work must necessarily be left undone. Consequently, such important food-dispensing establishments as hotels, restaurants, lunchrooms, eating-houses are non-inspected, both as to the quality of foodstuffs sold as well as to the sanitary conditions of such places. The handling of foodstuffs exposed for sale both in the raw and in the cooked state is a condition which urgently needs restriction by proper ordinance. This condition particularly applies to the street fruit and candy stands, cheap eating-houses, and the display of foodstuffs at stores handling a general line of foodstuffs.

The sanitary conditions of our markets and methods of handling foodstuffs therein are in need of much improvement and a suitable ordinance must be formulated to correct and control the conditions existing therein.

TABLE No. XIII—*Showing Amount of Work Done by the Food Inspectors by Months During* 1914.

MONTHS.	Stores Inspected.	Markets Visited.	Wharves Visited.	Abattoirs Visited.	Slaughter Houses Visited.
January	864	166	546	48	268
February	1,216	178	483	53	301
March	1,359	226	525	60	313
April	1,081	193	525	55	306
May	785	165	644	56	318
June	784	159	728	53	295
July	982	134	695	53	296
August	1,465	128	647	52	310
September	1,162	134	675	50	288
October	1,963	172	756	61	335
November	1,437	157	644	33	233
December	1,381	172	728	46	304
Total	14,479	1,984	7,596	620	3,567

LABORATORY WORK.

Table No. XIV shows the number of examinations made in the Chemical Laboratory during the year. As usual the milk work has largely predominated. The miscellaneous analyses include a variety of foodstuffs and analyses of samples submitted by other departments. The laboratory staff is entirely inadequate to examine many kinds of foodstuffs with any degree of regularity. It is necessary to increase the staff in this laboratory in order to enlarge our field of laboratory work.

TABLE NO. XIV—*Showing the Number of Milk, Water and Miscellaneous Chemical Analyses Made,* 1914.

MONTHS.	Milk Analyses.	Water Analyses.	Miscellaneous Analyses.
January	2,336	4	116
February	1,710	0	71
March	2,282	9	125
April	2,034	11	252
May	1,870	6	172
June	2,088	31	182
July	1,157	7	102
August	1,743	25	64
September	1,606	9	15
October	2,028	7	174
November	1,401	5	275
December	1,583	13	11
Total	21,838	127	1,559

Prosecutions.

The past year has been an exceedingly active one in so far as the number of prosecutions are concerned. Prosecutions were instituted against 73 persons for violations of our various food ordinances. The following is a summary of these cases:

For selling milk without a permit, guilty	27
For selling milk without a permit, stet	2
For selling milk without a permit, dismissed	6
For selling milk without a permit, dismissed with costs	4
For selling milk containing a preservative, guilty	2
For selling milk containing less than 3.5 per cent. butterfat, guilty.	5
For selling milk containing less than 3.5 per cent. butterfat, dismissed	4
For filling bottles on public highway, guilty	4
For filling bottles on public highway, dismissed	1
For returning unwashed cans to shippers, dismissed	1
For having decomposed fish in possession, guilty	2
For having decomposed fish in possession, dismissed	1
For having unsound meats in possession, dismissed	1
For selling ground meat containing a preservative, guilty	4
For selling ground meat containing a preservative, stet	5
For not displaying trade name or permit number on wagon, guilty	2
For not displaying trade name or permit number on wagon, paroled.	1
Total number of prosecutions	73

All these cases were undertaken after reasonable warning had been given. It is gratifying to note the co-operation of the various police magistrates in thus upholding our food laws.

Special Work.

During the latter part of the year our Department again undertook the work of handling the annual milk contest of the Maryland State Dairymen's Association. The object of this contest is to stimulate the production of better milk and at the same time, indicates the quality of milk which can be shipped to our city during a given period of time. The contest, as conducted by this Association, differs from those con-

ducted elsewhere in this country in that the duration of the contest is considerably longer, lasting about one month, whereas milk contests elsewhere are based entirely on the shipment of milk on one single day. The average bacterial counts of the twenty-five contestants in 1914 was 40,400 bacteria per cubic centimeter, whereas the average bacterial count of the contestants in 1913 was 182,600, which is a reduction in the average bacterial count of 77 per cent. When one considers the fact that all of this milk was raw milk and simply from the cans after shipment from the farms, it is evident that the milk was of a very high grade. It is further of the greatest interest that 10 of these contestants had average counts under 10,000 bacteria per cubic centimeter, which is the bacterial standard for certified milk.

A special laboratory examination was conducted on the various methods for the determination of required oxygen in water analyses. The results of this investigation will be published separately in one of the scientific journals.

Another special investigation was carried out on the qualitative examination of pasteurized milk to ascertain the types of organisms prevailing in our pasteurized milk, as delivered to the consumer. This work is still being continued and will later be published as a journal article.

During the year a Journal Club was organized, consisting of the scientific staff in the Bureau of Food and Dairy Inspection and the Division of Bacteriology. The members of this Club systematically review the articles appearing in the various scientific journals received by our Department. Over 50 journals, both foreign and domestic, are now received by our Department, in addition to the vast number of municipal, State and government publications, bearing on public health. All of this literature is carefully and periodically reviewed by the members of the Club and abstracts made of such articles as have an important bearing on our work. By this method all the members of the staff are keeping in close touch with

the recent development of the science of public health and our working library is being enriched with a large number of reference cards on the various phases of our health and laboratory work. The interest and spirit manifested already in this work augurs well for the success and permanency of this undertaking.

During the summer months our Department was materially assisted by Mr. B. A. Barlow, who conducted a most careful and painstaking investigation of the milk furnished to hospitals and hotels. This work and other work done by Mr. Barlow was under the auspices of the Women's Civic League of Baltimore. I wish to acknowledge the splendid interest and co-operation displayed by the Women's Civic League of Baltimore in our efforts to improve local milk conditions.

Recommendations.

Careful consideration of the foregoing data supplemented by first-hand knowledge of conditions existing in Baltimore compels me to earnestly direct your attention to the following conditions which need control either by means of ordinance or regulation, whenever such regulation is permissible.

First—Our food laws should be amended and revised so as to conform to the State and Federal laws governing foodstuffs.

Second—Our milk ordinance should be amended to require that permits be issue annually and at a nominal charge. This ordinance should also be amended so as to permit the Commissioner of Health to require all farms shipping milk to Baltimore city to have a permit before the product from the farm can be shipped and sold in Baltimore city. Our milk ordinance should also be made to require the pasteurization of all milk, and that all milk should be sold in bottles or other suitable containers, with the exception that bulk milk may be sold under certain special conditions. The pasteurization of milk

should be carefully controlled and defined by ordinance so that the consumer may be reasonably sure of securing properly pasteurized milk.

Third—A suitable ordinance should be drawn and passed, regulating the equipment and sanitary condition of establishments where food is prepared or offered for sale.

Fourth—A bakery ordinance should be drawn prescribing the location, equipment and methods of operation.

Fifth—An ordinance requiring the slaughtering of animals, including poultry, under municipal inspection.

Sixth—Regulations against the exposure of foodstuffs on the street from stands, push-carts, etc., and a more sanitary handling of foodstuffs in our various public markets.

Seventh—An increase in our laboratory and inspection force to meet the needs, as set forth in the above proposed ordinances.

In conclusion, I wish especially to commend the active and untiring work of Messrs. William P. Palmer, Chief Inspector; M. J. Gahan, clerk; R. S. Craig, assistant chemist; H. B. Siegmund, assistant chemist, and Miss A. R. Fisher, stenographer. The writer is indebted also to Mr. J. S. Fulton, Jr., for the preparation of charts and tables in this report.

Respectfully submitted,

FRED C. BLANCK, PH. D.,
Chemist and Chief, Bureau of Food and Dairy Inspection.

TABLE No. XV—*Showing the Amount and Kind of Foodstuffs (Except Milk, Which Will Be Found in Table No. III) Condemned by Months During* 1914.

MONTHS.	Vegetables.	Peas and Beans.	Meat.	Veal.	Beef.	Poultry.	Game.	Rabbits.	Fish.	Codfish.	Salmon.	Smoked Fish.	Mackerel.	Oysters.	Terrapin.	Crabs.
January	4,363	.....	1,004½	....	....	795	48	....	.....	20	1½	23	70	2,100	172	....
February	8,977	.....	105½	....	....	58	.....	....	217	....	....	....	....	1,516	....	....
March	8,160	.....	723	153	....	59	.....	....	.....	....	....	....	....	.....	....	....
April	28,290	.....	348	....	....	389	.....	....	3,780	....	....	....	....	50	....	....
May	102,315	.....	81	50	....	385	.....	....	5,555	....	....	....	....	200	....	....
June	71,867	26,250	839	....	....	.....	.....	....	15,055	....	....	....	....	.....	....	....
July	57,395	.....	861	....	....	.....	.....	....	21,835	....	....	....	....	200	....	100
August	10,905	.....	450	....	....	549½	.....	....	11,315	....	....	....	....	.....	....	....
September	22,281	.....	3,091	....	425	148	.....	....	4,810	....	....	....	....	1,924	....	....
October	120,512	.....	27,908	....	....	.....	.....	....	2,903	....	....	....	....	828	....	40
November	35,220	.....	783	....	....	128	.....	780	519	....	....	....	....	780	404	....
December	47,035	.....	746½	....	....	502	3,059½	....	620	....	....	....	....	60	....	....
Total	517,320	26,250	36,940½	203	425	3,013½	3,107½	780	66,609	20	1½	23	70	7,658	576	140

TABLE No. XV (Continued)—*Showing the Amount and Kind of Foodstuffs (Except Milk, Which Will Be Found in Table No. III) Condemned by Months During* 1914.

MONTHS.	Crab Meat.	Eggs.	Canned Beef.	Malt.	Fruit.	Dried Peaches.	Cantaloupes.	Sundry Groceries.	Mustard.	Sauce.	Pickles.	Canned Goods.	Condensed Milk.	Syrup.	Molasses.	Corn Starch.	Lard.
January	30	2,275	...	.....	.....	22	....	.....	¾	1	10	128	....	....	...	....	71
February	190	2	4	.....	5,710	....	....	.....	....	...	....	.....	....	....	...	....	.....
March	40	.....	...	.....	140	....	....	130¾	....	...	....	72	250	....	...	....	120¼
April	.....	.....	...	.....	440	....	....	1,049	....	...	....	.....	....	....	...	....	.....
May	750	.....	...	.....	8,400	....	....	.....	....	...	....	.....	....	36	8	60	.....
June	2,030	24	...	.....	10,236	....	....	1,955	....	...	....	.....	....	....	...	....	.....
July	620	4½	...	300,000	25,442	....	....	15,955	....	...	12	.....	....	....	...	....	.....
August	643	.....	...	.....	6,820	....	....	154½	....	...	....	.....	....	....	...	....	12
September	75	19	...	.....	260	....	155	.....	....	...	....	.....	....	....	...	....	.....
October	1,615	18	...	.....	2,725	....	....	.....	....	...	....	370	....	....	...	....	.....
November	700	.....	...	.....	7,063	....	....	1,061	....	...	....	7,485	....	....	...	....	.....
December	150	.....	...	.....	286	....	....	5,266	....	...	....	.....	....	....	...	....	.....
Total	6,843	2,342½	4	300,000	67,522	22	155	25,570½	¾	1	22	8,055	250	36	8	60	203¼

TABLE No. XV (Continued)—*Showing the Amount and Kind of Foodstuffs (Except Milk, Which Will Be Found in Table No. III) Condemned by Months During* 1914.

MONTHS.	Flour.	Butter.	Cheese.	Macaroni.	Oatmeal.	Spices.	Rasins.	Cream of Wheat.	Buckwheat.	Saratoga Chips.	Ketchup.	Prunes.	Horseradish.	Tapioca.	Pickles.
January	1,010	21	.....	20	54	4	20	10	57	12	15	72	13½	.....	.....
February	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
March	200	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
April	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
May	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2½	.....	.....
June	.....	15	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
July	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	6,000	.....
August	.....	2	½	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2
September	200	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
October	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
November	3,430	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
December	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Total	4,840	38	½	20	54	4	20	10	57	12	15	72	16	6,000	2

TABLE No. XV (Continued)—*Showing the Amount and Kind of Foodstuffs (Except Milk, Which Will Be Found in Table No. III) Condemned by Months During* 1914.

MONTHS.	Bakery Supplies.	Pies.	Bread.	Cakes.	Confectionery Sundries.	Candy.	Orangeade.	Total Amount of Foodstuffs Condemned (Pounds).	Animals Condemned on Hoof.				
									Cattle.	Sheep.	Hogs.	Calves.	Total.
January	1,537	....	.....	705	.....	49	....	14,374¼	4	12	8	5	29
February	.....	....	.....	.....	.....	.....	....	16,779½	6	12	1	6	25
March	.....	....	.....	.....	.....	200	....	10,248	4	11	3	9	27
April	.....	....	.....	.....	.....	60	....	34,406	5	10	3	4	22
May	.....	2	.....	.....	279	.....	40	118,163½	3	11	2	5	21
June	.....	....	.....	.....	.....	1,482	....	129,753	5	11	3	9	28
July	.....	....	.....	22	23	12	....	428,481½	4	13	3	4	24
August	.....	....	.....	.....	232½	.....	....	31,086	2	8	1	4	15
September	.....	....	.....	.....	.....	.....	....	33,388	3	13	9	3	28
October	.....	....	.....	.....	.....	167	....	157,086	4	9	33	7	53
November	.....	....	300	.....	.....	.....	....	58,653	2	6	1	5	14
December	.....	....	.....	.....	.....	.....	....	57,725¾	.....	6	6	9	21
Total	1,537	2	300	727	534½	1,970	40	1,090,504½	42	122	73	70	307

ANNUAL REPORT

OF

SYDENHAM HOSPITAL

SYDENHAM HOSPITAL.

Staff.

S. T. Nicholson, Jr., M. D.....*Superintendent*
(Resigned March 15. 1914.)

John F. Hogan, M. D.....*Superintendent*
(Appointed March 15, 1914.)

Miss Frances Michael, R. N.....*Superintendent of Nurses*
(Resigned March 1, 1914.)

Miss Emma Williams.....*Superintendent of Nurses*
(Appointed March 1, 1915.)

Assistant Physicians.

John F. Hogan, M. D.....*January* 1 *to March* 15, 1914
Walter W. Point, M. D.....*March* 15 *to June* 1, 1914
Alexander J. Gillis, M. D.....*June* 1, 1914

Consulting Staff.

H. C. Davis, M. D.....*Consulting Otologist*
Arthur M. Shipley, M. D.....*Consulting Surgeon*

Report of Superintendent of Sydenham Hospital.

BALTIMORE, December 31, 1914.

NATHAN R. GORTER, M. D.,
Commissioner of Health.

DEAR SIR:

I have the honor to submit herewith the report of Sydenham Hospital for the year 1914. You will note that the number of admissions did not reach the number of the previous year. This was due mostly to the fact that in the early part of the year we had an outbreak of diphtheria among the nurses, and it was impossible for us at that time to obtain nurses to substitute for the ill members of our staff. During the latter part of the year we were compelled to refuse many cases of scarlet fever, due to an insufficient amount of floor space. The wards were so overcrowded that it was impossible at this time to accommodate more patients.

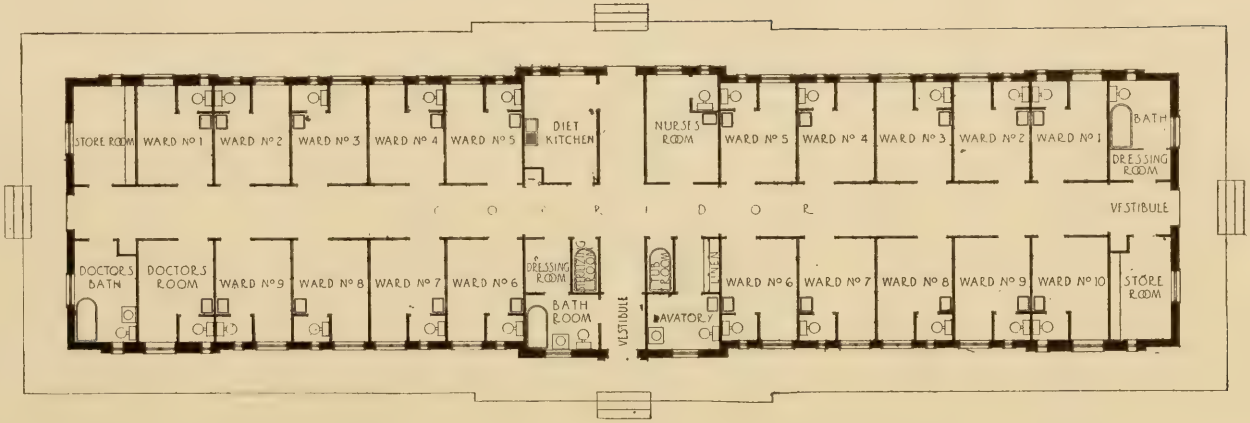
You will also note that the daily cost per patient was more than in the year 1913, which I believe was due to the increased cost of living.

I take this opportunity to express my gratitude to you for the invaluable help you have given me.

Yours respectfully,

JOHN F. HOGAN, M. D.,
Superintendent and Resident Physician.

SYDENHAM MUNICIPAL HOSPITAL
WARD B



PLAN

0 5 10 15 20 25

REPORT OF SUPERINTENDENT.

During 1914 many changes were effected in the buildings and numerous needed improvements made on the grounds.

In the month of March the offices were moved from the Administration Building, which is now known as the Nurses' Home, to the building which was erected for the residence of the Superintendent.

The new residence for the Superintendent was completed in December, 1913, and was occupied on March 15, 1914. This building is used as living quarters for the Superintendent and the Assistant Physician, and a part of it is set aside for the offices of the institution.

The new observation ward was started in May, 1914, and is now completed, except for inside painting, furnishings and equipment, and therefore has not been turned over to the Health Department. This is a unique building, being one story in height, containing 20 rooms available for patients, two storerooms, a linen-room, office for head nurse, four bathrooms; two closets for portable tubs, one of which is for the sterilization of tub. Underneath the building there is a pit 16 feet by 18 feet by 6 feet 10 inches, which contains a boiler for hot water supply, switchbox for lighting purposes and regulating devices for the heating system.

Each one of the 20 rooms or wards is a complete unit, and is equipped with its own toilet and slop sink, so that all patients will be completely isolated from one another. Each room has an outside entrance through which the patient will be admitted, and an entrance from the hall for the use of doctors, nurses and attendants. It is difficult for me to express in writing the

wonderful aid this building will be to us in the future, and I hope that it will soon be utilized.

Some of the improvements and repairs, plus the current running repairs made during the year, are as follows:

About 16,000 cubic feet of grading.

One thousand and fifty-eight square feet of cement walks laid.

Lawn grass seed to cover about 14,570 square feet.

One hundred and eighty linear feet of cement curbing, with gutter, laid.

Superintendent's Residence.

The dining-room of this building has been converted into an office, with the furnishings taken from office formerly in the Administration Building.

Two bedrooms on second floor and living-room on first floor were partly furnished from the expense account.

Four cellar windows reconstructed with cement and dished to the center and connected with terra-cotta drains, thereby necessitating the laying of 100 feet of 4-inch terra-cotta pipe.

Telephone system was changed so that the switchboard is now located in the office. An additional single extension telephone was run to the upper floor of the building.

Shades and screens were purchased for doors and windows of entire building, and awnings were hung on the office windows.

A boiler was installed in the cellar for obtaining hot water.

Nurses' Home.

Two rooms were fitted up on the lower floor—one as a library and the other as a living-room.

A new large radiator was placed in the living-room.

Small radiator in the bathroom was replaced by larger one.

Floors of four of the rooms were stained.

Various necessary furnishings were supplied in living and sleeping rooms.

A cupboard for groceries and provisions was built in the cellar.

HOSPITAL.

Irrigation tables constructed in two of the wards.

New window screens to replace worn ones.

New instruments, including auroscopes, intubation set, blood pressure apparatus, etc.

Diseases.	Remaining Jan. 1, 1914.			Admitted.			Discharged.				Remaining Jan. 1, 1915.		
	Male.	Female.	Total.	Male.	Female.	Total.	Recovered.	Not Recov'd.	Died.	Total.	Male.	Female.	Total.
Scarlet fever	1	....	1	41	32	73	60	....	2	62	7	5	12
Scarletinal nephritis	....	....	.....	1	....	1	1	....	....	1	....	....	....
Double otitis media	2	....	2	4	1	5	5	....	1	6	1	....	1
Arthritis	....	....	.....	1	1	2	1	....	....	1	....	1	1
Sublingual adenitis	....	....	.....	1	....	1	....	....	....	.....	1	....	1
Double otitis media, broncho-pneumonia	....	....	.....	1	....	1	....	....	1	1	....	....	....
Mumps	1	....	1	....	....	.....	1	....	....	1	....	....	....
Lobar pneumonia, whooping cough, acute nephritis, double otitis media	....	....	.....	1	....	1	1	....	....	1	....	....	....
Endocarditis	....	....	.....	....	1	1	1	....	....	1	....	....	....
Nephritis, chickenpox	....	....	.....	1	....	1	1	....	....	1	....	....	....
Double otitis media, cervical adenitis	....	....	.....	1	2	3	1	....	2	3	....	....	....
Otitis media, suppurative arthritis	....	....	.....	1	....	1	1	....	....	1	....	....	....
Single otitis media	....	....	.....	2	5	7	5	....	....	5	1	1	2
Burn of leg	....	....	.....	....	1	1	....	....	....	.....	....	1	1
Acute nephritis, cancrum oris	....	....	.....	1	....	1	....	....	1	1	....	....	....
Chronic nephritis	....	....	.....	....	1	1	1	....	....	1	....	....	....
Cervical adenitis	....	....	.....	....	2	2	1	....	1	2	....	....	....

Single otitis media, cervical adenitis	1	1	2	....	1	1	3	....	....	3	....	....	....
Acute nephritis	....	....	....	....	1	1	....	....	....	....	....	1	1
Infection of leg	....	....	....	1	....	1	1	....	....	1	....	....	....
Bronchitis	....	....	....	1	....	1	1	....	....	1	....	....	....
Otitis media, rhinitis	....	....	....	1	....	1	1	....	....	1	....	....	....
Double otitis media, acute nephritis	....	1	1	....	....	....	1	....	....	1	....	....	....
Abscess of right tonsil	1	....	1	....	....	....	1	....	....	1	....	....	....
Diphtheria, double otitis media	1	....	1	....	....	....	1	....	....	1	....	....	....
Admitted to nurse scarlet fever infant	....	....	....	....	1	1	1	....	....	1	....	....	....
Total	....	....	9	....	....	108	....	....	8	98	....	....	19

Detailed Medical Report, 1914—Continued.

Diseases.	Remaining Jan. 1, 1914.			Admitted.			Discharged.				Remaining Jan. 1, 1915.		
	Male.	Female.	Total.	Male.	Female.	Total.	Recovered.	Not Recov'd.	Died.	Total.	Male.	Female.	Total.
Diphtheria:													
Pharyngeal	2	5	7	20	32	52	52	....	....	52	4	3	7
Pharyngeal, broncho-pneumonia	....	....	.....	1	....	1	....	....	1	1	....	....	....
Pharyngeal, diphtheritic paralysis	....	....	.....	1	....	1	....	....	1	1	....	....	....
Pharyngeal, measles	....	....	.....	....	1	1	1	....	....	1	....	....	....
Pharyngeal, chronic nephritis	....	....	.....	1	....	1	1	....	....	1	....	....	....
Pharyngeal, scarlet fever	....	....	.....	1	....	1	1	....	....	1	....	....	....
Pharyngeal, scarlet fever, single otitis media	....	....	.....	....	1	1	1	....	....	1	....	....	....
Pharyngeal, miscarriage	....	....	.....	....	1	1	1	....	....	1	....	....	....
Laryngeal	....	....	.....	14	13	27	26	....	1	27	....	....	....
Laryngeal, cervical adenitis, otitis media	....	....	.....	1	....	1	1	....	....	1	....	....	....
Laryngeal, broncho-pneumonia	....	1	1	2	1	3	1	....	3	4	....	....	....
Laryngeal, whooping cough	....	....	.....	1	....	1	1	....	....	1	....	....	....
Nasal	....	....	.....	1	....	1	1	....	....	1	....	....	....

Carrier	....	....	.....	2	5	7	7	....	....	7	....	....	....
Admitted account exposure to disease	....	....	.....	....	1	1	1	....	....	1	....	....	....
Total	....	....	8	....	....	100	....	....	6	101	....	....	7
Suspects:													
Admitting diagnosis— Discharge diagnosis—													
Scarlet fever	Gastro-enteritis	....	....	.....	1	....	1	1	....	....	1	....	....	....
Scarlet fever suspect..	Scarlet fever	....	....	.....	....	1	1	1	....	....	1	....	....	....
Scarlet fever suspect..	Pharyngitis	....	....	.....	....	1	1	1	....	....	1	....	....	....
Pharyngeal diphtheria.	Follicular tonsilitis	....	....	.....	1	....	1	1	....	....	1	....	....	....
Tonsillar diphtheria	Follicular tonsilitis	....	....	.....	1	....	1	....	....	....	.....	1	....	1
Total		....	....	.....	....	....	5	....	....	....	4	....	....	1

Laundry.

Four pieces of laundry machinery installed, consisting of a washer, extractor, mangle and dryroom, during the month of May. The washer and extractor were placed in the basement, mangle and dryroom on the first floor.

Plastered walls and ceiling on first floor were replaced with metal and 3½-foot tongue-and-groove wainscoting.

One window in mangle-room constructed.

A hoist elevator connecting the first floor with the basement.

A steam coil, 10 feet long, in mangle-room.

Entire reconstruction of steam pipes in cellar.

Stormhouse and clothes chute over entrance to cellar.

Garage.

Box stall torn down.

New radiator installed in compartment of building which was formerly used for a stable.

Bench, 10 feet by 4 feet, in ambulance room.

Blanket locker in ambulance room.

Upper Floor.

New window in loft.

Room for male employes thoroughly renovated and painted.

For the year 1915 the following are needed:

First (Nurses' Home)—Present Nurses' Home contains but four small sleeping-rooms. Two nurses are forced to occupy one of these rooms, which are entirely inadequate for two individuals. One nurse occupies each of the other rooms. It is very obvious that with the opening of the new observation ward that this building will be insufficient as a dwelling place for the additional nurses needed. It is, therefore, very urgent that more commodius quarters for the nurses be obtained.

Second (Detention Ward)—This building will need to be completely furnished, screened and equipped for the purpose. An extension telephone will have to be installed here.

Third (Ambulance)—This is in such a run-down condition that a new one will be needed at the beginning of next year. It will be advisable to have a metal body, so that the interior may be cleansed by washing and the use of antiseptic sprays, which a wooden body would not stand.

Fourth—As many colored patients are refused each year, a building for this race should be erected.

Fifth (Morgue and Chapel)—There is no place here at present for relatives to view the bodies, or for religious services.

Sixth—Lining the interior of garage with metal so as to make it as nearly fireproof as possible.

Seventh—Incinerator and fumigation plant.

Among miscellaneous improvements the following are necessary:

Running water for four rooms in Ward "A."

In sun parlor of Ward "A" (scarlet fever side) concrete floor, radiators and screens.

In the rear of diphtheria ward, the porch should be glassed in and screened.

Awnings for the dining-room of the Nurses' Home.

Repair of steps leading to kitchen.

Extra fire plug with 200 feet of hose.

Screens for porches of Nurses' Home and Superintendent's residence, as it is impossible to sit out of doors in the evening on account of mosquitoes.

Workshop for general repairs.

Laying of cement walks and building of cinder or macademized road around Ward "B."

Top dressing for Twenty-sixth street (road which leads from hospital to car line), from Pratt street (proposed) to Eastern avenue.

In conclusion, I wish to extend my sincere thanks to my assistants, the nursing staff and employes, for their faithful performance of duty at all times.

JOHN F. HOGAN, M. D.,
Superintendent.

DETAILED STATEMENT OF OPERATING EXPENSES.

Administration.

Salaries	$3,500 00	
Stationery, postage and printing	70 55	
Car fare, telephone and telegraph	55 45	
Miscellaneous	19 16	
Library	58 62	
Total administration		$3,703 78

Professional Care of Patients.

Salaries	$2,793 40	
Expenses:		
Apparatus and instruments	93 63	
Medical and surgical supplies	360 03	
Pharmacy	118 98	
Supplies (other than medical or surgical)	483 97	
Equipment for nurses	60 35	
Special nurses	446 85	
Total professional care of patients		4,357 21

Department Expenses.

Salaries		$2,480 00	
Expenses:			
Dairy, eggs and ice	$1,483 01		
Provisions	1,172 26		
Meats	1,385 81		
Fruits and vegetables	657 77		
Total steward's department		4,698 85	
Ambulance, delivery car, garage	$1,183 43		
Capital expenditures (Ford delivery car)	919 95		
Kitchen	38 50		
Laundry	602 96		
Housekeeping	184 02		
		2,928 86	
Total department expenses			10,107 71
Amount carried forward			$18,168 70

Amount brought forward		$18,168 70

General House and Property.

Salaries	$1,059 58	
Expenses:		
Heat and light	27 25	
Maintenance (machinery, piping)	309 23	
Maintenance (real estate and building)	1,136 38	
Capital expenditures (grading, furniture, etc.)	1,142 60	
		3,675 04
Capital expense (rent, laundry machinery)		2,077 50
Total operating expenses for the year		$23,921 24

STATEMENT OF CURRENT REVENUE, DECEMBER 31, 1913, TO DECEMBER 31, 1914.

Private room patients	$200 20
Pay ward patients	299 01
Immigrant patients	226 00
Ambulance fees	9 00
Sale of horse, etc	165 40
Total	$899 61
Total salary appropriation for 1914	$10,160 00
Total appropriation for expenses for 1914	14,150 00
Total	$24,310 00
Returned to the City Comptroller from salary appropriation	$327 02
Returned to the City Comptroller from appropriation for expenses	61 74
Total operating expenses	23,921 24
Total	$24,310 00

General Statistics.

Patients in hospital at beginning of year	18
Patients in hospital at end of year	27
Maximum number of patients in hospital at one time	30
Minimum number of patients in hospital at one time	2
Daily average number of patients	14.73
Average number of days' stay of patients:	
Scarlet fever	33.72
Diphtheria	18.65
Scarlet fever and diphtheria	41
Scarlet fever suspect	9.50
Diphtheria suspect	7
Total number of days' treatment given patients	5,376
Average daily cost per patient	$4.542
Average daily cost per patient, minus improvements to the hospital that are permanent	$3.338
Total number of days' board given patients and employes	11,764
Total number of deaths	14
Total number of admissions	213
Death rate from scarlet fever (per cent.)	7½
Death rate from diphtheria (per cent.)	$5\frac{15}{16}$
Death rate from diphtheria, deducting deaths within 24 hours (per cent.)	$4\frac{15}{16}$
Average cost of subsistence per person per day	$0.399

Number of Days Maintenance of all Persons by Months.

Months.	Patients.	Employes.	Total.
January	508	511	1,019
February	513	502	1,015
March	543	556	1,099
April	418	540	958
May	390	547	937
June	319	534	853
July	402	558	960
August	470	527	997
September	225	465	690
October	359	550	909
November	391	540	931
December	838	558	1,396
Total	5,376	6,388	11,764
Daily average	14.72	17.50	32.23

Admissions by Months.

Diseases.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
Scarlet fever	12	9	16	8	8	2	10	10	3	3	7	19	107
Diphtheria	9	15	7	4	6	5	1	5	5	9	16	15	97
Scarlet fever and diphtheria	...	...	...	...	...	2	...	...	...	...	...	...	2
Suspects	...	...	...	1	...	1	...	...	...	1	...	...	3
Admitted to nurse scarlet fever patient	...	...	...	1	...	...	...	...	...	...	...	...	1
Admitted account exposure to diphtheria	...	...	...	...	...	...	...	1	...	...	...	...	1
Diphtheria carrier	...	...	...	...	...	1	...	...	...	...	1	...	2
Total	21	24	23	14	14	11	11	16	8	13	24	34	213

Cases Refused Admission.

Diseases.	White.	Colored.	Total.
Scarlet fever	32	4	36
Diphtheria	21	2	23
Scarlet fever suspect	3	.....	3
Measles	5	.....	5
Chickenpox	2	.....	2
Erysipelas	6	.....	6
Whooping cough	2	.....	2
Total	71	6	77

REPORT OF RESIDENT PHYSICIAN.

During the year 1914 five cross-infections occurred, but I am pleased to report that in not one instance was the disease communicated to other patients.

First—A male child, nine years old, was admitted from his home on February 9, suffering with scarlet fever, and developed mumps on February 12.

Second—A female child was admitted from one of the North German Lloyd steamships on February 20, suffering with diphtheria, and developed measles on March 2. On questioning the ship's physician as to whether or not there were other infectious diseases on board, he made a positive reply, but stated that this child had been in a separate part of the ship.

Third—A male child was admitted from his home on March 14, suffering with scarletinal nephritis, and developed chickenpox on March 17.

Fourth—A male child was admitted from one of the dispensaries on May 29, suffering with laryngeal diphtheria, and on June 5 developed whooping cough.

Fifth—A male child was admitted from his home on July 18, suffering with scarlet fever, and developed whooping cough 15 days later.

I might add here that not one case of mastoiditis developed during the year, nor were there any intracranial complications. For the other complications I refer you to the tabulated medical report.

The mortality rate in scarlet fever was .0747, while that of diphtheria was .0594, including one death within 24 hours.

We are greatly indebted to the consulting surgeon, Dr. Arthur M. Shipley, and to the consulting otologist, Dr. H. C. Davis, for their numerous visits and prompt response, also to Dr. A. J. Gillis, the assistant physician, whose aid has been very valuable.

JOHN F. HOGAN, M. D.,
Resident Physician.

General Statistics.

Patients in hospital at beginning of year	17
Patients in hospital at end of year	27
Maximum number of patients in hospital at one time	30
Minimum number of patients in hospital at one time	2
Daily average number of patients	14.73
Average number of days' stay of patients:	
*Scarlet fever	33.72
†Diphtheria	18.65
‡Scarlet fever and diphtheria	41
Scarlet fever suspect (two patients)	9.50
Diphtheria suspect (one patient)	7
Total number of days' maintenance given patients	5,376
Average daily cost per patient	$4.542
Average daily cost per patient, minus improvements to hospital that are permanent	$3.338
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Death rate from scarlet fever (per cent.)	7½
Death rate from diphtheria (per cent.)	$5^{15}/_{16}$
Death rate from diphtheria, deducting death within 24 hours (per cent.)	$4^{15}/_{16}$
Average cost of subsistence per person per day	$0.399

*There were eight cases of scarlet fever in the hospital at the beginning of 1914, having been left over from 1913. One hundred and eight cases were admitted during 1914, one of which received no treatment, leaving the total admitted 107, and of these 19 remained in the house after December 31, 1914, leaving 96 to be reckoned on.

†There were eight cases of diphtheria in the hospital on January 1, 1914, having been left over from 1913. Ninety-eight cases were admitted, one of which was not treated, leaving the total admission number of diphtheria patients 97, and of these seven were left in the house after December 31, 1914, leaving 98 to be reckoned on.

‡There were two patients admitted during the year suffering with both scarlet fever and diphtheria. One patient was left over from 1913, who also suffered with both diseases.

ANNUAL REPORT

OF THE

TUBERCULOSIS NURSES DIVISION

Report of the Tuberculosis Nurses Division.

BALTIMORE, January 1, 1915.

NATHAN R. GORTER, M. D.,
Commissioner of Health.

DEAR SIR:

December 31, 1914, ended the fifth year's work of the Tuberculosis Nurses Division of the Health Department. The staff greatly regrets that the nurse who organized and brought it to a state of great efficiency, Miss Ellen N. La Motte, has resigned. Her going is a loss to the Department and it was with a mingled sense of honor and responsibility that I accepted her position. The work made wonderful strides during her regime and attained at least a continent-wide reputation.

Besides the superintendent there are on the staff sixteen other registered graduate nurses as field workers and one as clerk for the dispensaries. The nurses in the districts are supposed to be on duty eight hours a day. They have a half day off in the middle of each week, two weeks sick leave and two weeks vacation yearly, all Sundays and other legal holidays. They wear blue chambray uniforms in summer and blue denim ones in winter made into plain shirt waists and skirts with a watch-pocket on the waists and one or two large pockets on the skirts. Hats and coats may be chosen according to individual taste. The supply bags are the well-known Boston ones. Each nurse wears the pin provided by the city for all employes designating their occupation.

The nurses report to the superintendent in the main office in the Health Department every morning. This with clerical

work and stocking their bags requires about an hour. The same amount of time is spent in the branch offices at noon for lunch, re-stocking the bags, and receiving patients. Another half hour or hour is consumed in their homes at night by more clerical work and 'phoning.

There are eight branch offices located on the border lines of the districts so that all but two are used by more than one nurse—two of them by three. As some of the districts are very large much time is necessarily lost in traveling back and forth. Each nurse should have an office in the center of her own district, not only to avoid this waste but also for the convenience of those patients who needing supplies more frequently than the nurse can deliver them with her present amount of work could send someone a reasonable distance for them.

The nurses visit all people reported to the Health Department as positive cases of pulmonary tuberculosis except those who are private patients of a physician who for a reason, good or bad, refuses the nurses admission and also those who are reported as only showing symptoms that may be due to this disease. In the latter case they ask the family physician for a diagnosis, if there is no physician they try to persuade the people to be examined as soon as possible at some tuberculosis dispensary or to have a specimen of their sputum analyzed at the Health Department Laboratory. When there is tuberculosis the nurses give any nursing care required, advise the family in regard to diet, exercise, sleeping accommodations, and other habits of life, distribute prophylactic supplies and instruct in their use, and render assistance in the formation of plans for the patients' admission to sanatoria. They arrange for the fumigation of houses after the removal of tuberculous patients and for the destruction or sterilization of bedding, draperies, carpets, clothing, etc., and visit afterward to learn whether these things have been attended to satisfactorily. They try to get full or part time

employment for those who have had to give up their usual form of occupation because of illness. Their clerical work consists in keeping accurate, tho not detailed, records of visits paid and of the condition, surroundings, and treatment of all their patients, so that at any time a study can be made of the development of tuberculosis work in Baltimore or of the efficiency of the Division.

Patients.

During the year the visiting list has enlarged, as is shown in the following table:

Number of patients under supervision January 1, 1914		3,400
Old patients returned to visiting list		88
New patients during year		1,704
Total		5,192
Number of patients died during year	838	
Number that left city	282	
Lost (moved, address unknown)	213	
Not tuberculous	202	
		1,535
Total		3,657
Uncounted thru error in index		72
Patients under supervision December 31, 1914		3,729

As a result the average number of patients per nurse is now 233 instead of 212½ as it was a year ago.

We have registered 1,505 patients with the State Board of Health as positive cases of pulmonary tuberculosis.

Original registrations	856
Duplicate registrations	649
Total	1,505

As the total number of original registrations for the City of Baltimore at the State Board for this time has been 2,145, we reported 39.91 per cent.

To these 5,192 patients or in their behalf we have paid the following visits—an increase of 3,427 over last year:

Visits to patients	72,301
Co-operative visits	4,059
Visits to arrange for fumigation	3,303
Visits to inspect after fumigation	3,063
Total	82,726

This does not mean that we are doing better work, but that we are reaching more people and consequently giving less care to each one. No nurse can properly care for more than 100 patients but at present each is attempting to care for 2⅓ times that number. Last year the average length of time allowed from the beginning of one visit to the beginning of the next was only 14½ minutes and I have not had the courage to learn what it has been this year.

Prophylactic Supplies.

During the year we have received from the State Board of Health for distribution among our patients the following supplies:

	No.	Cost.
Paper napkins	670,000	$368 50
Fillers	97,900	432 65
Bottles of disinfectant	8,512	851 20
Tin cups	1,128	78 96
Total		$1,731 31

As there were enough books of information for new patients and oiled muslin pockets left over from last year it has not been necessary to order any.

We have frequently been accused of extravagance in the use of these supplies. The State Board in each prophylactic package gives:

100 Napkins.
100 Fillers.
1 Tin cup.
1 Bottle of disinfectant.
2 Pockets.
1 Book of information.

This amount is supposed to last 3 months. The book of information urges the patient to cover the mouth with a paper napkin when coughing and to use a fresh one every time. Consequently the number given for 3 months limits the number of coughs to about 1 a day. A person with copious expectoration is allowed 1 filler per day for the sputum cup and one with no expectoration the same number. We give far more liberally to our open cases and not at all to those who do not need any. There is no doubt in my mind that some supplies are wasted but the proportion is probably very small indeed.

Half the cases registered with the State Board of Health live in Baltimore. The total amount of money expended by them for supplies for the whole State in 1914 was $4,736.07, of which $1,731.31 was for the city patients under our care (36½ per cent. of the total amount for 50 per cent. of the patients), rather good economy.

Social Condition.

White native Americans	2,357
Jews (native and foreign born)	521
Foreigners (other than Jews)	370
Negroes	481
Total	3,729

Only 99 or 2½ per cent. of the cases reported object to being visited by the nurses—less than last year. Of the 1,704

new patients, 286 or 17 per cent. were reported as private patients by general practitioners.

Physical Condition.

Positive cases		3,181
Acute	2,646	
Incipient	251	
Moderately advanced	1,460	
Advanced	655	
Chronic	280	
Arrested (have not shown symptoms for)	535	
2 years	397	
3 years	79	
4 years	19	
More than 4 years	40	
Suspicious cases		548
Patients in institutions		468
Patients at home		3,261
Able to work	1,984	
Able to work part time	714	
Unable to work but not confined to bed	462	
Confined to bed	101	
Active cases		2,646
Adequately careful	565	
Moderately careful	1,411	
Careless	670	

Besides those in institutions there are only 97 patients, actively tuberculous and at home, who can be considered adequately careful and all of them are very early cases in which the danger to others is negligible. All those confined to bed should undoubtedly be in hospitals for advanced cases, those unable to work but not confined to bed should be in sanatoria, and those able to work part time would be far happier at some place, such as a farm or industrial colony, where this kind of employment could be given and their physical condition watched.

Charitable Relief.

Only 803 or 21 per cent. of all our patients have ever been known to a relief giving organization. This is an increase of 3 per cent. over last year or one-sixth as many more people—a sad commentary on the hard times that have been upon us.

Patients Known to Charitable Organizations.

To 1 organization	759
To 2 organizations	39
To 3 organizations	4
To 4 organizations	1
Total	803

Known to:	
Federated Charities	621
Hebrew Benevolent Society	127
St. Vincent de Paul Society	83
1 other	20
2 others	2

Unemployment has affected us too. At present 45 of our patients who are able to work cannot obtain any—thus lessening the income upon which not only they but 114 members of their families depend. 411 members of other families in which we have patients are in a similar condition thus changing the economic position of themselves, 136 of our patients, and 83 other members of their families. Smaller incomes mean less food of poorer quality, less adequate housing conditions, and worry—three splendid aids in spreading the tuberculosis already in their midst.

Diet.

We have asked for diet in only 34 cases. It has been provided as follows:

Federated Charities	29
Hebrew Federated Charities	3
St. Vincent de Paul Society	2

The diet consists of one quart of milk a day and is given only under four conditions:

Awaiting diagnosis	5
Awaiting admission to a sanatorium	12
During intervening illnesses	16
When no hospital nor sanatorium is provided	1

It is a curious fact that again we have asked for this almost entirely for white people altho about 1/7 of all our patients are colored.

White	32
Colored	2

Sources.

Found by nurses	157
Reported by physicians	286
Patients, family, or friends	71
Instructive Visiting Nurses Association	50
State Board of Health	168
Municipal Tuberculosis Hospital, city office	27
Eudowood	19
State Sanatorium	156
Jewish Home for Consumptives	14
Federated Charities	59
Hebrew Federated Charities	3
Mercy Hospital	1
Johns Hopkins Hospital	4
Harriet Lane Dispensary	5
Phipps Tuberculosis Dispensary	439
Maryland University Tuberculosis Dispensary	39
Health Department Tuberculosis Dispensaries	133
City Medical Agencies	12
Baltimore General Dispensary	2
Miscellaneous	59
Total	1,704

Tho there were only 5 cases reported by hospitals added to our visiting list this year the following tables show the large number actually found in these institutions. Permission to visit all those reported by hospitals has always been granted but some of the patients are not residents of Baltimore and others die before they can be removed to their homes.

Pulmonary tuberculosis reported by:

St. Joseph's Hospital	7
University of Maryland Hospital	10
Marine Hospital	11
Johns Hopkins Hospital	15
Maryland General Hospital	3
Mercy Hospital	3
Total	49

Deaths from pulmonary tuberculosis in:

Mercy Hospital	15
St. Joseph's Hospital	7
Hebrew Hospital	4
Garrett Hospital	5
Maryland General Hospital	6
University Hospital	5
Maryland Homeopathic Hospital	1
United States Marine Hospital	8
Johns Hopkins Hospital	22
Eye, Ear, Nose and Throat Hospital	2
Union Protestant Infirmary	3
Skin and Cancer Hospital	1
Biedler-Sellman Sanatorium	1
Franklin Square Hospital	1
Total	81

These tables indicate that even at present general hospitals care for people not only suffering from pulmonary tuberculosis but sufficiently ill to die from it within a very short space of time.

Dispensaries.

The dispensaries report by far the largest number of cases—about 35 per cent.

Health Department Tuberculosis Dispensaries	133
Phipps Tuberculosis Dispensary	439
Harriet Lane Dispensary	5
Maryland University Tuberculosis Dispensary	39
City Medical Agencies	12
Baltimore General Dispensary	2
Total	630

Our nurses are on duty at all of the tuberculosis ones. This enables us not only to get reports of tuberculosis promptly but at the same time to secure instructions from the physicians making the examinations and to give them the benefit of all our knowledge of home and family conditions. We have found also that patients make the first and subsequent visits more readily if they know that the nurse who visits them will be at the dispensary.

Health Department Tuberculosis Dispensaries:	New Patients.	Return Visits.
602 South Bond Street	381	570
1418 Light Street	212	422
1220 McCulloh Street	196	141
Total	789	1,133
Phipps Dispensary	1,341	6,859
University Tuberculosis Dispensary	600	301

We have sent 2,785 patients to the dispensaries this year.

For some time it has been more and more apparent that there is great need for a tuberculosis dispensary somewhere in North Baltimore convenient to the alleys in the vicinity of North avenue and Charles street thickly populated by negroes and easily reached by those living in the mill district of Hampden-Woodberry and the newer sections of Waverly where so

many ex-sanatorium patients are moving because the houses have porches and fairly large yards. The nearest tuberculosis dispensaries are Phipps, at Monument and Wolfe streets, and the Municipal, at 1220 McCulloh street, both several miles away and necessitating a long ride on two car lines. This belief in the need for a dispensary became so strong that in October many people and organizations interested in all sections of North Baltimore, representing the Maryland Association for the Prevention and Relief of Tuberculosis, the Federated Charities, the St. Vincent de Paul Society (especially the conference belonging to the parish of Sts. Philip and James), the Children's Playground Association, the Instructive Visiting Nurses Association, the West Park Recreation Centre, churches in the neighborhood, and individual taxpayers who desired the same protection for their part of the city that had been so freely given to others, appealed to the Health Department to open a fourth dispensary and to locate it there. As this was not possible because the Budget for 1915 had been sent to the Board of Estimates, they then presented their request to this body. We were asked to show by our map and data the necessity for this dispensary that we had found in our work. The Board seemed greatly interested but unfortunately at the last minute it was found impossible to make the appropriation. Their interest, however, has given us courage to hope that next year this dispensary will become a reality.

Institutional Care.

During the year we have sent 851 patients to sanatoria:

Municipal Tuberculosis Hospital	286
State Sanatorium	365
Eudowood Sanatorium	105
Jewish Home for Consumptives	94
Other sanatoria	1
Total	851

The other sanatorium was one at White Haven, Pennsylvania, and the patient was a colored boy able to pay for treatment and therefore refused admission to our Municipal Tuberculosis Hospital as he was not a pauper.

The care and treatment at the Municipal Tuberculosis Hospital is very good and many patients, white and black, who would be perfectly willing to go to an institution so near home and greatly benefited by doing so, cannot be admitted or will not apply for admission because of the fact that under present conditions one must be declared a pauper.

People who are not paupers are frequently unable to pay for medical care, particularly is this true when the patient is the breadwinner of the family; and if the disease is other than pulmonary tuberculosis or the contagious diseases of childhood they can get treatment free in any city hospital without being branded in this way.

1605 or 43 per cent. of all our patients have had sanatorium care—1,514 were white and 91 colored. Thus while 46 per cent. of all our white patients have been able to receive such treatment it has been possible for only 19 per cent. of our colored ones. Of the white ones there have been in:

1 Sanatorium	1,194
2 Sanatoria	289
3 Sanatoria	27
More than 3	4
Total	1,514

All of the colored have been to only one.

Children.

We have 286 children under 15 years of age on our list. For these children we have only 25 beds at the State Sanatorium and consequently their stay must be limited to six

months with no re-admission. There are no accommodations for colored children.

White native Americans	196
Jews	33
Negroes	57
Total	286

It is almost impossible to get a diagnosis of pulmonary tuberculosis in children until they are so ill that the chances for improvement are very slight indeed. As all tuberculosis experts tell us that this is the period in life when the danger of infection is greatest it would seem wise to treat all children as possible cases of tuberculosis. This could be done only by beginning where the infant mortality nurses leave off, at three years of age, and following all children until they reach the age of puberty. Combined with this supervision should be a strenuous campaign to make all schoolrooms fresh air ones to prevent children from becoming sick instead of, as at present, providing such rooms only for children who have already fallen victims to the bad ventilation and dirt of the ordinary classroom.

Fresh Air Schools.

At present Baltimore has only one fresh air classroom located in a school at Locust Point and accommodating but 25 pupils. The fact that these children have gained 679 sessions over the record of last year shows strikingly the improvement in health that being out of doors has meant to them. The improvement is even more vividly brought out when we realize that this gain is an increase of 20⅝ per cent. or one-fifth of the total number of sessions they were able to be present during that entire year.

All of the children tho physically below par gained a grade, two more than one, except those who were either mentally

deficient or lacked foundation thru poor attendance due to sickness or by being too ill while in school to take advantage of the instructions given. This school was made possible only because the faculty, especially the principal, believed not only that a fresh air room was needed and would be of great benefit, but believed it sufficiently to persuade private individuals and organizations to provide the necessary funds and to give many hours of their precious free time over a long period to make it a success. It is a striking example of what can be done against apparently insurmountable difficulties by those who have sufficient confidence in a cause and are willing to give freely of their time and talent to bring about its accomplishment. We hope during the coming year to have two more such rooms.

Even more important than this classroom in the campaign to prevent the development of tuberculosis in our well children (instead of waiting until they are sick to cure them) is another undertaking in the same school. It might probably be called the "Baltimore Idea," as it seems not only to be pioneer here but to be untried in any other locality. We are indebted to Miss Persis Miller, the principal of the school, for originating it and putting it into execution. The 100 children in the primary grades were divided during the first two terms into four groups—each group spending one-fourth of the school day in the classroom and the other three-fourths in the adjacent park under the guidance of a playground instructor. Here they had supervised play to develop their bodies, were told stories, and dramatized them. In spite of the fact that they spent only ¼ as much time in actual class work, all of the children made more progress than they had last year and the brightest made 4⅓ as much. This was due to some extent to the individual attention which they received in the small sections but primarily to the fact that with plenty of fresh air and exercise they were physically strong and alert enough to make study easy. During the last term they were divided into two sections, spending half the day out of doors.

If this "Baltimore Idea" were widespread thruout the city and country, I wonder what the result would be in developing children with sufficiently strong bodies to withstand tuberculous and other infections. Judging by the scholastic results of the experimental year, the cost to the School Board would be greatly lessened by the progress made.

Fumigations and Nuisances.

		No.	Not Necessary.
Investigations for fumigation after death		1,110	48
Investigations for fumigation after removal:			
To Municipal Tuberculosis Hospital	383		51
To State Sanatorium	573		34
To Eudowood Sanatorium	143		6
To Jewish Home for Consumptives	83		3
To other quarters	1,082		1
		2,264	— 95
Total		3,374	143

Fumigations are not necessary for several reasons—other cases of tuberculosis in family, an early return of the patient to the same quarters which will not be used in the meantime, when the place of residence proves to be a shed, stable, or wagon, or a lodging-house made up of dormitories which cannot be fumigated (in such instances the owner or proprietor is required to clean thoroly and have bedding, if any, sterilized or destroyed), or when the address is fictitious and no place of residence can be found.

The following results were obtained thru the nurses' instructions to the families during the visits before and after fumigation.

After death:	
Houses cleaned	847
Houses not cleaned	110
Houses vacant	71
Total number inspected	1,028

Bedding, etc., burned	336
Bedding, etc., sterilized	383
Rooms papered, etc	54
After removal:	
Houses cleaned	1,659
Houses not cleaned	174
Houses vacant	231
Total number inspected	2,064
Bedding, etc., burned	202
Bedding, etc., sterilized	235
Rooms papered, etc	102

We have reported 74 nuisances.

Special Investigations.

Two years ago the nurses of this Department, at the request of a large printing firm, visited all its employes and had them examined to find if possible the source of infection of several cases of tuberculosis that had developed in their midst. Contrary to the belief held by eminent tuberculosis workers that such investigations result in the unreasonable, wholesale discharge of tuberculous employes and the refusal to reinstate them when in good condition, the employer during this year inquired from us whether it would be proper to re-employ one of the men who had gone away for treatment at that time and has since been living in the country. He was perfectly willing to do so if the man was in proper condition. We advised a re-examination and arranged for it. As the physician could not feel sure that the man would be able to stand this kind of work he returned to the country. The employer had a marked case of phthisiphobia when the investigation was asked for and we are very much gratified that our work has resulted in such a rational frame of mind that he is willing to employ a man who has had active pulmonary tuberculosis, providing the physician feels that the man is able to

stand the work and is no longer a source of danger to others. An examination safeguards the patient too by warning him of any danger such employment would mean.

A social agency in the city asked us about the advisability of employing an ex-sanatorium patient in a clerical position. At the time their office was visited one of the workers had a severe cold, was using no particular care when coughing or expectorating, and had all windows closed. We convinced them that any one who had learned the value of fresh air (as the sanatorium patients do) would prove a blessing to the whole force. Such a person would be determined to have fresh air and those in the same office would therefore have it forced upon them. This would soon mean better health for all. The woman in question was employed, and so far no bad results have been reported.

Result of Five Years Work.

Number of patients under supervision January 1, 1910		1,617
Old patients returned to visiting list		398
New patients during five years		9,780
Total		11,795
Number of patients died during five years	4,151	
Number that left the city	1,569	
Lost (moved, address unknown)	1,207	
Not tuberculous	1,211	
Total		8,138
		3,657
Not counted thru error in index		72
Patients under supervision December 31, 1914		3,729

Visits.

Years.	To Patients.	Co-operative.	Before Fumigation.	After Fumigation.	Total.
1910	56,112	4,861	2,909	2,942	66,824
1911	61,175	2,423	2,880	2,833	69,311
1912	72,058	2,841	3,137	2,992	81,028
1913	69,743	3,075	3,327	3,144	79,289
1914	72,301	4,059	3,303	3,063	82,726
Total	331,389	17,259	15,556	14,974	379,178

Cases Registered with State Board of Health.

1910	2,094
1911	1,312
1912	1,547
1913	1,472
1914	1,505
Total	7,930

Sent to Dispensaries and Sanatoria.

Years.	Dispensaries.	Municipal Tuberculosis Hospital.	State Sanatorium.	Eudowood.	Jewish Home for Consumptives.	Other Sanatoria.	Total to Sanatoria.
1910	2,903	339	107	79	25	....	550
1911	1,917	291	109	109	33	....	542
1912	3,082	310	180	123	53	....	666
1913	3,375	298	295	116	61	....	770
1914	2,785	286	365	105	94	1	851
Total	14,062	1,524	1,056	532	266	1	3,379

Sources from which Patients are Obtained.

YEARS.	Found by Nurses.	Reported by Physicians.	Patients, Family, or Friends.	Instructive Visiting Nurses Association.	State Board of Health.	Municipal Tuberculosis Hospital, City Office.	Eudowood.	State Sanatorium.	Jewish Home for Consumptives.	Federated Charities.	Hebrew Federated Charities.	Mercy Hospital.	Johns Hopkins Hospital.	Harriet Lane Dispensary.	Phipps Tuberculosis Dispensary.	Maryland University Tuberculosis Dispensary.	Health Department Tuberculosis Dispensaries.	City Medical Agencies.	Baltimore General Dispensary.	Miscellaneous.	Total.
1910.....	706	432	184	*1,729	....	41	28	97	.....	155	...	....	....	....	431	107	.....	80	....	218	4,208
1911.....	358	349	136	115	....	64	35	71	.....	116	...	....	....	....	391	83	.....	31	....	67	1,816
1912.....	251	382	159	121	115	61	28	75	.....	103	...	....	....	....	418	58	27	37	....	57	1,892
1913.....	214	†328	103	75	†185	41	22	108	.....	60	...	....	....	....	406	70	62	27	....	76	1,777
1914.....	157	†286	71	50	†168	27	19	156	14	59	3	1	4	5	439	39	133	12	2	59	1,704
Total.....	1,686	1,777	653	*2,090	468	234	132	507	14	493	3	1	4	5	2,085	357	222	187	2	477	11,397

*1,617 patients transferred January 1, 1910, when Division was organized.

†The apparent decrease in number reported by physicians and increase in those reported by State Board of Health in 1913 and 1914 is due to the fact that those cases obtained from doctors who had sputum analyses made in the Laboratory have been erroneously credited to the State Board instead of to physicians. This error was discovered too late to correct the table.

Referred for Relief and Diet.

Years.	Federated Charities.		Hebrew Federated Charities.		St. Vincent de Paul Society.		Total.	
	Relief.	Diet.	Relief.	Diet.	Relief.	Diet.	Relief.	Diet.
1910	316	73	1	1	6	2	323	76
1911	238	30	5	.....	5	1	248	31
1912	337	55	4	.....	3	.....	344	55
1913	247	20	8	3	11	.....	266	23
1914	90	29	29	3	15	2	134	34
Total	1,228	207	47	7	40	5	1,315	219

Fumigations.

Years.	After Death.		After Removal to—												Total.	
			Municipal Tuberculosis Hospital.		State Sanatorium.		Eudowood.		Jewish Home for Consumptives.		Other Quarters.		Total.			
	Necessary.	Not Necessary.	Necessary.	Not Necessary.	Necessary.	Not Necessary.	Necessary.	Not Necessary.	Necessary.	Not Necessary.	Necessary.	Not Necessary.	Necessary.	Not Necessary.	Necessary.	Not Necessary.
1910	1,162	32	430	68	220	13	93	3	61	4	938	.....	1,742	88	2,904	120
1911	1,186	106	399	52	308	13	132	4	62	1	1,110	2	2,011	72	3,197	178
1912	1,157	48	379	73	246	26	128	8	67	2	949	.....	1,769	109	2,926	157
1913	1,107	44	410	60	460	12	132	10	76	1	1,108	3	2,186	86	3,293	130
1914	1,110	48	383	51	573	34	143	6	83	3	1,082	1	2,264	95	3,374	143
Total	5,722	278	2,001	304	1,807	98	628	31	349	11	5,187	6	9,972	450	15,694	728

Results of Instruction as to Cleaning, etc., Following Fumigations.

Years.	Fumigation After Death.							Fumigation After Removal.						
	Houses Cleaned.	Houses Not Cleaned.	Houses Vacant.	Total Houses.	Bedding, etc., Burned.	Bedding, etc., Sterilized.*	Papering, Painting, and Whitewashing.	Houses Cleaned.	Houses Not Cleaned.	Houses Vacant.	Total Houses.	Bedding, etc., Burned.	Bedding, etc., Sterilized.*	Papering, Painting, and Whitewashing.
1910	766	280	62	1,108	461	.....	46	947	398	281	1,626	119	.....	64
1911	850	172	76	1,098	423	.....	107	1,068	273	302	1,643	95	.....	65
1912	821	198	77	1,096	418	246	48	1,229	335	291	1,855	127	129	71
1913	838	141	65	1,044	402	379	59	1,527	270	258	2,055	163	213	108
1914	847	110	71	1,028	336	383	54	1,659	174	231	2,064	202	235	102
Total	4,122	901	351	5,374	2,040	1,008	314	6,430	1,450	1,363	9,243	706	577	410

*Municipal steam sterilizer not obtained until 1912.

Articles of Clothing, Bedding, etc., Destroyed and Sterilized.

Years.	Destroyed.	Sterilized.
1909	*317	.....
1910	1,148	.....
1911	1,050	.....
1912	1,346	†1,916
1913	1,274	3,479
1914	1,368	3,848
Total	6,503	9,243

*Year before Tuberculosis Nurses Division was organized.
†Year municipal sterilizing plant was put into operation.

Patients Under Supervision Before Death.

Years.	Total Number of Deaths.	Number Under Supervision.	Per Cent.
1910	1,234	776	62.88
1911	1,165	814	69.87
1912	1,189	856	71.91
1913	1,129	867	76.79
1914	1,145	838	73.18

Death Rate per 1,000 Population.

Years.	Total.	White.	Negro.
1909	2.53	1.93	5.79
1910	2.47	1.86	5.61
1911	2.38	1.76	5.79
1912	2.36	1.79	5.57
1913	2.51	1.71	5.85
1914	2.26	1.70	5.41

It is reasonable to suppose that the care, superficial as it must be since the work has become so heavy, that 16 nurses have been able to give the 11,795 patients under their care during these five years in the 379,178 visits has had at least some share in the slight lowering of the death rate that has taken place. If we study what some of their work has been we may be led to believe that their part in this campaign has been an important one indeed. They have found 1,686 patients and have had them diagnosed. They have sent 14,062 to dispensaries, 3,379 to sanatoria. If nurses had not been in the field to visit and re-visit until they were able to persuade these people to avail themselves of the opportunities the city and state have offered to the tuberculous, how many of them would have received their benefits? 15,556 visits were paid to arrange for fumigation after death and removal and 14,974 others were inspections following. One of the above tables shows how much co-operation they have been able to get from the householders in the way of cleaning, painting, re-papering, whitewashing, etc., and in the number of articles destroyed and sterilized, without which the fumigations would have been practically valueless.

The table showing the sources from which cases have been obtained indicates clearly that the people and organizations who have availed themselves of our help have been sufficiently satisfied with the results to continue. The nurses do not find as many cases as formerly—partly because with the increase in the visiting list time for ferreting out and following up suspects has necessarily been greatly limited, and partly because the people, as the result of the nurses' instructions in former instances, now seek of their own accord their physicians or the dispensaries as soon as any symptoms appear.

That the nurses' services alone, or even aided by dispensaries only, cannot do much more than prevent an increase in the death rate is shown by those for the colored people during the last six years. Institutional care for advanced cases, decent

housing conditions and schools are essential for any success in this direction. As the mortality among the colored people is three times as great as among white the necessity for strenuous efforts in their behalf is very great. The two races are so exceedingly interdependent here that one cannot suffer without affecting the other. The white people must help to eradicate tuberculosis among the colored from selfish motives if not from humanitarian ones.

Needs.

Besides another dispensary in the northern section of the city we need an assistant dispensary physician so that the Bond Street and Light Street Dispensaries can be open oftener than twice a week. There has not been a day this year that patients, frequently many, have not had to be turned away from Bond Street and very few days when the condition has not been the same at Light Street owing to lack of time to examine them—altho the staff instead of closing the dispensary at four has worked until six and sometimes later.

The housing conditions for our Jewish, Polish (in fact all immigrants), and colored people are very bad indeed. The new sewerage system is helping greatly to abolish some of the defects. But houses built for one family cannot be made to hold many times that number—even up to ten or more—unless they are radically changed. A hydrant in the back yard, frequently frozen in winter, as the only source of water supply, is not conducive to cleanliness. Rooms without windows and houses without sunlight and with no furnace to warm and dry them will not promote or even allow good health.

All of our schools should be open-window ones at least. Probably one of the greatest benefits of our only fresh air classroom has been its effect on the other teachers and consequently on their rooms. One who had been very susceptible to colds and, as so frequently follows, greatly afraid of draughts undertook to accustom herself and her pupils grad-

ually to open windows after seeing the effect on teachers and pupils of being out of doors. The change was marked—many less colds, better general health, red cheeks, and an increase in weight. Others have followed the example until the whole school is gradually becoming an open-window one. Even more important, however, than an increase in the number of fresh air classes for sick children and open-window ones for well would be a universal adoption for all grades of Miss Miller's "Baltimore Idea."

There is constant agitation for a central hospital for advanced cases in the state—or for several of them. These will not solve the problem. Very ill patients will not go far away from home to die nor will they go to a place that has the reputation for a high death rate. It would be far less expensive to add wards for tuberculous patients to already established hospitals and these would overcome all objections that patients and friends could raise. They would be as near every one as any general hospital, the patients could go to one they knew and liked, enough people would recover and go home well from other wards of these institutions to take away the feeling that admission to them meant death, and as persons with all kinds of diseases would be admitted going there would not so markedly brand them as tuberculous.

As such an arrangement not only has been tried in other cities but has been continued and expanded there is no reason to fear that results here would be any less satisfactory. We have tuberculous patients in our hospitals at present not in separate wards but by the side of others not tuberculous who by their lowered resistance thru ill health or injury are very fit subjects for infection. Separate wards, even tho containing more tuberculous patients than are at present scattered thruout the hospitals, would be far less dangerous. During the year 49 people have been reported by 6 of our hospitals as being patients there with pulmonary tuberculosis

(these are only the ones they have remembered to report) and 81 have died in 14 of them.

We need for our colored people better schools and houses and wards for advanced cases in all general hospitals. A sanatorium for them until housing and school conditions are improved will be futile. But even such things will not achieve their greatest usefulness unless the colored people, themselves, co-operate in every way—better housekeeping in their own homes, more wisely chosen food, saner recreation, and less immorality must be attained thru their own efforts before such concrete things as houses and hospitals, no matter how abundant and adequate, can help them in any degree to escape tuberculosis. Many of them have given us this co-operation and it is this alone that has kept the death rate from going any higher, but many more must do so before any marked decrease will be shown—no matter what provision for their care the city and state will make.

One of the most glaring needs at present, and a very important one, is an institution for pregnant tuberculous women where they can remain in bed as long as required before confinement to conserve their strength sufficiently, where their babies can be born under good conditions, and where they can stay in bed or at least at rest long enough afterward to keep them from breaking down again. It does not seem to matter how well women may be, if they have had a tuberculous breakdown previously, unless the greatest precautions are taken during this period, the additional drain on their strength makes them succumb again. Then they not only are added to the list needing care but also become dangerous to their babies. It would therefore seem economy to provide a place for them which would prevent such relapses rather than to care for two ill people later in place of every one.

Additional Nurses.

As has been said above, the number of patients that 16 nurses have attempted to care for this year has increased from

3,400, or an average of 212½, to 3,729, or an average of 233, and the number of visits from 78,289 to 82,726. This has been accomplished only by the nurses working overtime. In December alone this amounted to 287 hours or 35⅞ days of eight hours each—an average of nearly 2¾ days that each nurse gave the city because her patients, Baltimore citizens, required it for their own sakes and to protect the other residents of the city. A Christmas gift to the city in one month alone of $6.78½ from each nurse!

Even with this extra effort the work has not been thoro. Almost daily complaints have come in by telephone and by mail that a nurse has not seen some patient for several weeks or a month and investigations have revealed only the reason that some other patient's needs seemed more urgent and consumed the time. These will become more numerous as the number of patients under supervision increases and they are an index of the work that is being left undone. Anything in this field that is not done means that many sources of infection unchecked. As I said last year, no nurse can properly care for more than 100 patients. It is necessary to increase the staff to 2¼ times its present size to reduce the number of patients sufficiently.

Much of the nurses' time is now taken up with statistical and clerical work. As they are untrained along these lines it takes them longer than it would a trained person and the result is less for actual visiting. The amount of clerical work which must be done by the superintendent takes practically all of her time and consequently she cannot supervise the field work. This should not be the case. New nurses need careful supervision and the older ones who have lost their enthusiasm and have become discouraged require the spur that oversight gives. If there is a nurse on the staff who is ill-fitted for the work or untrustworthy, careful and constant supervision is the only thing that can detect it. Two ste-

nographers could be kept busy and the records would then be far more accurate and the nurses would be free to spend more time in the district.

Co-Ordination of Nursing Work.

The advisability of combining all nursing organizations, and possibly both nursing and social ones, is being so universally discussed at present that it does not seem proper to close my report without referring to it. This reorganization would mean that each worker would have to be responsible for all kinds of nursing and instruction—general and special—and probably for the social reconstruction of families as well. Therefore, each one of the many nurses needed would have to be an unusual woman indeed, be trained as a public health nurse and a social worker, and keep herself well posted along both lines of work as well as keeping up with the work itself. The splendid co-operation of all medical-social agencies in Baltimore has avoided much of the duplication we hear of in other cities but there is some even here. A reaction, however, may readily lead to the other extreme and result in one person, trained along a single line only, attempting to do so many kinds of work—each requiring special preparation—that mediocrity or even inefficiency will supplant duplication. The rural nurse is a public health nurse and social worker. Yet do not all organizations constantly speak of the necessity for raising standards in rural work and of upholding the nurse with high standards against public opinion which for the time being is interested in only one line of effort? Do the National Organization for the Study and Prevention of Tuberculosis and the one for Infant Mortality get their best results and statistics to prove their successes or failures from the overburdened rural nurse or the specially trained tuberculosis and infant mortality urban nurses in organizations which devote their entire time to but one subject? Would any one wish to remodel city medical lines to conform to those of the country

doctor—conscientious, self-sacrificing, and faithful tho he be and an absolute necessity in our national life—after having been blessed with the benefits of consultation with and treatment by specialists in their offices, in hospitals, or dispensaries?

There should be some co-ordination but not enough to give less good care to any class of patients nor (in public health work especially) poorer statistical information for use in any campaign against preventable disease. At present I feel that we need three organizations for medical-social work; one of social workers to look after family rehabilitation and personal readjustments to changed conditions, one to give nursing service at home for a moderate fee to all who wish to take advantage of it, and one to attend all families in which there is any condition that affects public health.

The first, I feel, should be a private organization or, if a public one, connected with a Bureau of Social Service as it is in Toronto, Canada, not with a Department of Charities, so that people could be kept from falling below the poverty line instead of being helped only after charity has become necessary. If the organization is private, the governmental department of charities should call upon it for investigations and information but should pay for all such work. The workers' training should be along the lines of philanthropy and social and political economy. Nurses training is unessential.

The second would be our Instructive Visiting Nurses Associations and should in no way be allied with a charitable organization, public or private. Every visit should represent a fixed fee paid into the treasury of the organization so that no one would feel that a visit from a nurse on its staff might mean an unpaid service to any one in the neighborhood and therefore hesitate to call on them. This does not mean that nursing care would be withheld from those unable to pay—only that Nursing Organizations be paid for all they do. Until we have some workable system of compulsory sickness and accident insurance, there will always be people unable to pay for

medical and nursing care. When, however, a nurse finds a family in such circumstances and unprotected by sickness insurance in a commercial company or benefit society—lodge, industrial, or otherwise—she should report the case to the private or public agency which handles all failures in family adjustment to meet the ordinary or unusual needs that arise. In this way a temporary service will not be given free without continued effort to lift the family above the same condition in the future. Is it any better to give so many dollars' worth of nursing service and instruction and then to leave the recipient than to give material relief and think that the case is closed? If there are not enough institutional beds for all acute and chronic cases unable to pay for the nursing care which they need (and there never will be) should not nursing service at home be paid for by private or public agencies just as doctors' fees, prescriptions, groceries, rent, etc. are until the family have been raised above these needs? As long as funds for free nursing come from the treasuries of Nursing Associations the stigma of charity will cling more or less closely to that service and many who need it sadly will not avail themselves of it. A far different impression will be given when it is a foregone conclusion that all nursing visits are paid for either by the family or by the social worker when she is in attendance. The social worker will then be the index of the necessity for family readjustment, financial or otherwise, and the nurse for ill health. This is not said in the slightest disparagement of the work and function of social workers. It is to the advantage of their work that all people be reached as quickly as possible who need nursing service and the instruction in hygiene that accompanies it in order to keep them from falling below the poverty lines because of ill health. People in such precarious circumstances are hyper-sensitive and will hide their need for financial assistance much longer than that for nursing care. Every legitimate means should be provided that will enable them to get it without any stigma of charity in order to pro-

duce a more rapid return to good health and the better economic condition that goes with it. If the nurses are in attendance upon these border-line cases the social workers will reach them sooner, and vice versa, thus lessening the relief necessary. In order to reach the greatest number of people by an inexpensive nursing service the fact that it is absolutely a business enterprise must be greatly emphasized. This has already been shown in papers at the annual meetings of the National Organization for Public Health Nursing by Dr. Frankel at Atlantic City and Miss Peabody at St. Louis. Hourly nursing should be combined with district nursing and instruction. Until public opinion considers ill health a community problem in the same sense that it now accepts crime and fire, this class of nursing cannot be taken over by the city or state except in connection with the Department of Charities and this would cut off many who need it greatly.

Thirdly, nursing and instruction in those diseases and conditions which are generally recognized as menaces to public health should be taken over by a protective rather than a charitable department of government so that all classes of society may receive the benefits. The fields of effort would be infant mortality, school hygiene, infectious diseases including not only the so-called contagious diseases but typhoid fever, tuberculosis, and probably all the reportable ones, cancer, and the various mental abnormalities. Here it appears quite necessary to co-ordinate nursing work. One nurse might do all of this with proper supervision—that is for each branch under the direction of one specially trained in that work watching and guiding the field nurse in all families into which this particular problem enters. The difficulties to be met in such a plan would be the fear in infant mortality work of infection from some contagious disease, the danger of cross-infections, and, last but not least, the possibility of friction and discontent arising from each nurse being responsible to several different supervisors—one for infant mortality, one for school hygiene,

one for contagious diseases, one for tuberculosis, etc. They all seem to be adjustable ones, however. The medical profession is leading the way in showing that simply by means of glass cubicles different contagious diseases can be treated in the same ward by the same nurses without cross-infection. Doctors daily go from contagious cases to new-born babes or even obstetrical work (public health nurses should under no circumstances do obstetrical work) without any evil results unless there has been gross carelessness. Caps and gowns in the hallways of homes to be put on upon entering the houses and removed before thoroly cleaning the hands in disinfectant when leaving would be sufficient safeguards and far more than many physicians deem necessary. Besides this the daily work would be planned so that well babies would be taken care of the first thing in the morning and patients with contagious diseases the last thing in the afternoon. The unpleasantness that might arise from many overseers seems the most difficult one but as that is being worked out satisfactorily in Toronto apparently even it can be successfully overcome.

It is probably in the field of public health nursing that most duplication occurs for there are so apt to be babies, school children, infectious and contagious diseases, and even mental deficiency, and cancer in one family. All of these nurses are overworked at present but with many fields of endeavor and smaller districts with no duplication of effort their burdens would probably be lessened. They would give the nursing care necessary in their work and all public health matters should be referred to them.

There may be one big objection to this co-ordination. All those boards who have had to finance private nursing organizations or to urge larger appropriations for public ones realize how difficult it is to get a sufficient amount of money for all the work even when there have been many interested, each using all its efforts and powers of persuasion and appealing at different times. Will it be easier for one set of people

to ask for many times the amount from only one source at one time? Apparently Cleveland in appealing for funds for all private charities has found a united effort best. Baltimore has sufficient faith in the example to follow it and if it proves to be well founded this objection will not be valid.

Respectfully submitted,

ELEANOR A. McI. JONES, R. N.,
Superintendent, Tuberculosis Nurses' Division.

Report of the Municipal Tuberculosis Dispensaries.

BALTIMORE, January 1, 1915.

NATHAN R. GORTER, M. D.,
Commissioner of Health.

DEAR SIR:

During the year of 1914 the dispensaries handled approximately the same number of cases as in the preceding year, but an analysis will, perhaps, be interesting.

Although the total number of cases examined falls a little below that of last year, the proportion of those found positive is greater.

It is somewhat difficult to say why this should be, and several reasons may be advanced, but we are certainly not far wrong in stating that in the sections where the dispensaries are located the public generally is coming to know them as a place where, if they have tuberculosis, they will get proper treatment, and if they are suffering from some other ailment they will be advised as to where they should go and how they should act; this, to bring out the fact that many of those cases who were suspicious of what treatment they would receive, overcame that feeling, and of course were benefited thereby.

The relatively small number who entered sanatoria in comparison to the number advised, only emphasizes what was stated in our report of last year, namely, the disinclination of the women for the reason that there would be no one to look after the children, and on the part of the men that there would be no one to support their families. It can be readily seen why tuberculosis is becoming more and more a problem for the sociologist.

It is a matter of gratification that increasing numbers are coming to us from the various charity organizations, from other dispensaries, sent by friends, and particularly by other physicians.

The work of 1914 has brought out more clearly, perhaps, than ever before, the need of additional facilities for handling tuberculous negroes, particularly those of the advanced stage. At present we urge and exhort them to undergo treatment. The writer hopes that the day is not far distant when, instead of having to be urged to undergo treatment, that this type of patient will, when they are told what their disease is, voluntarily ask to go to a place which will have gained a reputation amongst the colored people.

Probably this will be better understood when we state that in the case of the whites, oftentimes they come of their own volition and ask to be sent to the State Sanatorium. This, in our judgment, is not only a tribute to the State Sanatorium, but it is the one thing to be desired, for the incentive will be theirs, and a big step forward will have been made.

It is our judgment that a fourth dispensary should be started in the northern section of the city. It is true that a fair number from this part of the city come to the McCulloh Street Dispensary, but it is quite certain that this section would supply a sufficient number of patients to justify the opening of a new dispensary.

During the year a special recommendation was made for the appointment of an assistant. It might be better to consider the appointment of the assistant and the establishment of the dispensary at the same time. If we are to elaborate this work—and it is our earnest desire that in the near future the dispensaries will be on the same plane as those of the other large cities—we should certainly have another physician. One man cannot make many thorough examinations in an afternoon, and since the opening of the dispensaries in 1911 it has been the invariable rule that every new patient be examined. This

is mentioned merely for the purpose of calling attention to the fact that time is the most important factor. Just to mention one matter in which time could be saved: one physician could be examining whilst the other is treating old cases. This method, of course, is followed in most dispensaries.

It is our desire also to have fluoroscopic examinations. This also would be dependent upon the appointment of another physician.

It is a pleasure to acknowledge the real help received from the Tuberculosis Nurses; their work has been thorough and their co-operation highly appreciated.

Very respectfully,

JOHN E. O. NEILL, M. D.,
Superintendent.

Summary of Municipal Tuberculosis Dispensaries for the Year 1914.

Dispensaries.	New Patients.	Positive.	Suspicious.	Negative.	White.	Colored.	Old Patients Returned.	Prescriptions Given.	Advised Sanatorium.	Entered Sanatorium.	Advised Other Clinics.	Sputum Reports.	Sent by Tuberculosis Nurses.	Sent by Other Nurses.	Sent by Federated Charities.	Sent by Friends.	Sent by Other Dispensaries.	Sent by Other Physicians.	Came of Own Accord.
602 South Bond Street.....	381	109	134	138	364	17	570	850	76	35	47	89	160	13	53	87	45	15	8
1418 Light Street.....	212	61	81	70	202	10	422	483	60	22	35	45	92	22	26	29	15	27	1
1220 McCulloh Street.....	196	53	74	69	139	57	141	217	35	9	43	35	78	9	50	23	22	12	2
Total.....	789	223	289	277	705	84	1,133	1,550	171	66	125	169	330	44	129	139	82	54	11

REPORTS OF

Chief Tenement House Inspector

Superintendent of Fumigations and Burials

Superintendent of City Morgue

Inspector of Plumbing

Registrar's Clerk

Complaint Clerk

Burial Permit Clerks

Nuisance Clerk

Index Clerk

Clerk to Bureau of Vital Statistics

Report of Chief Tenement House Inspector.

BALTIMORE, December 31, 1914.

NATHAN R. GORTER, M. D.,
Commissioner of Health.

DEAR SIR:

In accordance with the custom of preceding years, I beg leave to submit my annual report, as Tenement House Inspector, for the year ending December 31, 1914.

Nuisances open or pending	1,644
Nuisances ordered abated	1,340
Notices issued	522
Notices requested to call	49
Notices to tenants requesting them to keep clean	24
Houses inspected	2,441
Houses reinspected	4,161
Special inspections	595
Complaints investigated	160
Hoppers or frost-proof closets installed	892
Interior water closets installed	305
Bath tubs installed	188
Privies cleaned	600
Privy wells filled	526
Privies repaired	6
Water installed	5
Water removed from cellar	1
Waste pipes repaired	15
Water closets repaired	25
Walls of rooms, halls and stairways papered or whitewashed	50
Warrants to show cause	10
Rubbish removed from yards and cellars	59

Roofs repaired	30
Rain leaders repaired	36
Yards repaired	3
Premises cleaned	12
Filthy mattresses removed	4
Miscellaneous repairs	30
Unsanitary basement vacated	1
Fowls removed from basement	1

Respectfully submitted,

D. W. Smith, M. D.,
Chief Tenement House Inspector.

Report of Superintendent of Fumigations and Burials.

BALTIMORE, January 1, 1915.

NATHAN R. GORTER, M. D.,
Commissioner of Health.

DEAR SIR:

I herewith submit the report of my Division for the year 1914:

Fumigations Classified by Diseases.

	1913.	1914.
Bronchitis	5	1
Cancer	23	24
Chickenpox	1	3
Cerebro-spinal meningitis	3	1
Diphtheria	1,122	1,177
Erysipelas	7	14
Gangrene	1	....
Lagrippe	1	1
Measles	33	2
Pneumonia	7	6
Scarlet fever	948	651
Septic pharyngitis	....	1
Smallpox	42	270
Tuberculosis	3,161	3,148
Typhoid fever	40	29
Tonsilitis	2	4
Unknown	16	7
Whooping cough	1	1
Total	5,413	5,340

Results of Fumigation.	1913.	1914.
Negative	4,860	4,330
Positive	319	425
Unreturned	186	317
No culture	48	268
Total	5,413	5,340

Diseases. *Number of Rooms Fumigated.*	1913.	1914.
Diphtheria	2,148	2,106
Miscellaneous	308	242
Smallpox	218	767
Scarlet fever	1,832	1,371
Tuberculosis	14,953	13,909
Total	19,459	18,395

Statement of dead bodies turned over to the Anatomical Board by the Commissioner of Health, under Act of the General Assembly of Maryland, Chapter 163, 1882, to be used only to promote medical schools of Baltimore city, January 1 to December 31, 1914, inclusive:

	1913.	1914.
Adults	240	243
Between 1 and 5 years	25	24
Under 1 year	191	155
Still births	364	458
Total	820	880
Male	502	505
Female	286	321
Unknown sex	32	54
Total	820	880
White	310	387
Black	496	476
Unknown	14	17
Total	820	880

The bodies were received from the following hospitals and institutions:

	1913.	1914.
Bay View	115	111
Church Home and Infirmary	3	2
Franklin Square Hospital	16	6
Hebrew Hospital	2	...
Homeopathic Hospital	6	6
Johns Hopkins Hopsital	62	81
Maryland General Hospital	46	29
Mercy Hospital	35	54
Mt. Wilson, Md.	9	10
Miscellaneous (private homes)	317	384
Morgue	74	68
Nursery and Child's Hospital	21	11
Northwestern Police Station	6	12
Northeastern Police Station	9	5
Northern Police Station	4	6
Robert Garrett Hospital	3	1
St. Elizabeth's Home	29	32
St. Joseph's Hospital	9	16
St. Luke's Hospital	2	...
University Hospital	51	40
Union Protestant Infirmary	...	1
Western Police Station	1	4
Woman's Hospital	...	1
Total	820	880

Disposition of Bodies.

	1913.	1914.
Baltimore Medical College	9	...
Church Home and Infirmary	2	2
College of Physicians and Surgeons	429	472
Franklin Square Hospital	1	...
Hebrew Hospital	3	...
Johns Hopkins Medical School	246	229
Maryland Medical College	2	1
St. Joseph's Hospital	2	1
University of Maryland	126	174
Henry B. Kolb, M. D.	...	1
Total	820	880

Total Number of Dead Bodies Handled by Health Department.

	1913.	1914.
Buried in Potter's Field	55	59
Surrendered to friends for burial	18	10
Transferred to Anatomy Board	802	870
Total	875	939

The following were goods destroyed and sterilized:

	Destroyed.		Sterilized.	
	1913.	1914.	1913.	1914.
Blankets	32	37	350	547
Bolsters	59	54	384	407
Bed quilts	29	56	68	60
Books	5	3	...	3
Carpets	25	4	11	25
Comforts	105	130	291	321
Couches	25	17	8	...
Clothing (bundles of)	74	73	66	93
Cushions	4	11	78	75
Curtains	2	14	11	...
Feather beds	23	18	190	195
Mattresses	522	521	296	260
Pillows	225	325	1,616	1,760
Portieres	5	4	31	4
Rugs	10	15	77	41
Rolls of matting	109	64	5	1
Sheets	14	14	11	21
Spreads	6	8	13	37
Total	1,274	1,368	3,479	3,848

Smallpox.

The smallpox patients and suspects sent to Quarantine Hospital during the year by this Division were reported by physicians or through the Police Department. Immediately upon receiving such a report, guards were sent to the premises until our ambulance arrived to convey the patient or patients to our detention rooms, where they were fed and cared for.

After being passed upon by C. Hampson Jones, M. D., Assistant Health Commissioner, they were sent in the Department ambulance to the Quarantine tug, which carried them to the Quarantine Station. The report is as follows:

	Smallpox.		Quarantined.	
	1913.	1914.	1913.	1914.
White	2	50	...	7
Black	40	275	110	76
Total	42	325	110	83

	Smallpox.		Quarantined.	
	1913.	1914.	1913.	1914.
Male	29	275	49	25
Female	13	50	61	58
Total	42	325	110	83

Respectfully submitted,

WILLIAM E. WOODALL OF W.,

Superintendent of Fumigation and Burial of Pauper Dead.

Report of Superintendent of City Morgue.

BALTIMORE, January 1, 1915.

NATHAN R. GORTER, M. D.,
Commissioner of Health.

DEAR SIR:

The following is a report for the year 1914 of the City Morgue:

	1913.	1914.
Number of bodies received	380	394
White	230	233
Black	150	161
Male	310	318
Female	70	76
Ages:		
From 1 to 10 years	42	52
From 11 to 20 years	45	28
From 21 to 30 years	58	77
From 31 to 40 years	88	82
From 41 to 50 years	79	78
From 51 to 60 years	34	43
From 61 to 70 years	24	34

Causes of Death.	1913.	1914.
Accident	63	50
Alcoholism	9	17
Apoplexy	20	22
Bright's disease	7	17
Burns	4	1
Congestion of lungs	1	...
Drowned	64	54
Dropsy	...	2
Exposure	1	3
Fractured skull	3	7
Heart disease	68	56
Heart failure	...	7
Hemorrhage	6	5
Heat prostration	...	2
Homicide	35	36
Meningitis	1	2
Peritonitis	2	5
Pneumonia	14	15
Septicemia	...	1
Still birth	23	21
Suicide	26	34
Toxemia	11	2
Tuberculosis	11	28
Typhoid fever	2	...
Uremia	7	7
Unknown	2	...
Bodies buried by friends	255	265
Bodies buried by city	126	124
Bodies now at Morgue	5	5
Post-mortems held by Dr. N. G. Keirle	78	67
Incinerating plant, working days	263	284
Sterilizing plant, working days	240	254

Respectfully submitted,

AUGUST H. RITTMILLER,
Superintendent of City Morgue.

Report of Inspector of Plumbing.

BALTIMORE, January 1, 1915.

NATHAN R. GORTER, M. D.,
Commissioner of Health.

DEAR SIR:

I herewith submit the annual report of the work executed by the Division of Plumbing and Drainage for the fiscal year ending December 31, 1914.

Permits Issued.

MONTHS.	Interior.	Drain.	Sanitary Sewers.	Total.
January	209	18	1,438	1,665
February	104	12	1,389	1,505
March	256	18	1,517	1,791
April	294	27	1,844	2,165
May	354	20	1,666	2,040
June	325	12	1,850	2,187
July	296	6	1,874	2,176
August	286	17	1,582	1,885
September	375	15	1,809	2,199
October	254	15	1,991	2,260
November	226	17	1,600	1,843
December	240	12	2,182	2,434
Total	3,219	189	20,742	24,150

Plumbing Inspections Made by Inspectors.

Months.	Truelove.	Smith.	Gessler.	Dorsey.	Reed.	Sullivan.	Martin.	Kneise.	Keller.	Curran.	Pruitt.	Keen.	Hagan.	Forster.	Total.
January	383	155	311	317	317	626	389	325	.....	186	439	.....	448	340	4,236
February	213	162	252	324	286	425	465	299	.....	265	204	.....	300	275	3,461
March	253	139	286	270	122	528	500	225	.....	259	287	.....	246	210	3,325
April	313	138	332	338	378	501	466	333	.....	383	439	.....	340	244	4,205
May	629	138	498	337	477	511	615	422	.....	624	413	.....	516	527	5,707
June	381	212	388	315	359	431	417	313	.....	524	254	.....	350	379	4,323
July	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
August	393	396	357	383	331	455	420	264	.....	385	345	.....	276	525	3,799
September	227	198	241	209	251	268	356	.....	93	345	202	.....	230	508	3,128
October	559	364	381	452	176	482	595	.....	291	382	404	.....	316	454	4,856
November	268	140	363	372	301	425	432	.....	318	447	165	55	374	413	4,073
December	364	257	417	418	413	436	526	.....	529	395	.....	382	350	494	4,979
Total	4,251	2,462	4,133	4,036	3,615	5,382	5,668	2,425	1,231	4,386	3,424	437	4,178	4,971	50,597

Sanitary and Drain Inspections.

Months.	Gorman.		Ebberts.		Griffith.		Total.	
	Sanitary.	Drain.	Sanitary.	Drain.	Sanitary.	Drain.	Sanitary.	Drain.
January	.....	.....	214	25	256	10	500	35
February	159	28	216	18	260	13	635	59
March	222	4	210	9	355	10	787	23
April	300	35	223	10	334	15	857	60
May	387	69	296	13	386	15	1,069	97
June	227	51	179	2	227	3	633	56
July	294	25	227	.....	253	9	774	34
August	341	41	231	1	633	1	1,205	43
September	140	42	215	9	368	5	723	56
October	230	30	151	5	220	6	601	41
November	415	31	205	10	256	9	876	50
December	344	45	235	12	319	11	898	68
Total	3,059	401	2,632	114	3,867	107	9,558	622

Notices to Abate Nuisances, etc.

Months.	Notices to Abate Nuisances.	Approvals for City Engineer's Office.	Application of Drainage for Inspector of Buildings Office.	Permissions to Enter Sewers. Minor Privileges.
January	69	6	68	93
February	79	15	57	104
March	135	7	77	141
April	68	8	87	190
May	100	11	98	187
June	40	8	86	203
July	124	14	73	160
August	50	10	69	193
September	68	7	53	176
October	57	14	46	97
November	78	5	26	72
December	85	5	24	44
Total	953	110	764	1,660

Sanitary Sewers.

Permits issued, 1911 and 1912	14,291	
Permits issued, 1913	19,443	
Permits issued, 1914	20,742	
Permits issued to date		54,476
Connections, 1911 and 1912	10,039	
Connections, 1913	16,535	
Connections, 1914	17,623	
Connections to date		44,198
Under construction		10,278

Number of Plumbing Fixtures Connected to City Sanitary Sewers.

Water closets	48,258
Wash bowls	21,146
Bath tubs	22,539
Sinks	45,353
Wash trays	2,523
Urinals	959
Slop hoppers	517
Miscellaneous	1,544
Total	142,839

Abandoned.

Drop privies	19,726
Wells	7,165
Old sewer connections	5,967
Total	32,859

Non-Compliance With Notices Served, etc.

Complaint.	"Summons to Show Cause" for Non-compliance With Notices Served.	Warrants.	Convictions.	Dismissed.	Fines and Costs.
City sanitary sewers	71	.....	.....	.....	.....
Choked private sewers	22	.....	.....	.....	.....
Cleaning and filling well or drop-privy	.....	6	1	5	(1) $20 00
Plumbing, "no permit"	.....	11	10	1	.....
	93	17	11	6	
				(1) $5 00	5 00
				(4) 10 00	40 00
				(1) 50 00	50 00
				(4) *	6 80
				(10)	$121 80

*Costs only.

Number of sanitary sewers choked or defective in 1913	149
Number of sanitary sewers choked or defective in 1914	237
Total	386

Respectfully submitted,

Charles I. Putts, Jr.,
Inspector of Plumbing.

Report of Registrar's Clerk.

BALTIMORE, December 31, 1914.

NATHAN R. GORTER, M. D.,
Commissioner of Health.

DEAR SIR:

I respectfully submit my annual report of all transcripts issued from January 1, 1914, to date, with statement of purposes for which they were required and the amount received and paid the City Comptroller each month.

TRANSCRIPTS ISSUED.	1913.	1914.
Births	1,408	1,087
Deaths	2,028	2,069
Total	3,436	3,156
AMOUNTS.		
January	$145 50	$123 00
February	142 50	111 00
March	131 60	118 50
April	105 00	102 00
May	101 50	100 00
June	107 50	96 94
July	88 50	113 00
August	99 50	78 00
September	111 00	77 50
October	97 50	84 50
November	88 60	89 00
December	103 00	78 00
Total	$1,323 70	$1,171 44

Purposes.	1913.	1914.
Burials	4	8
Employment	1,188	866
Foreign	93	60
Information	13	9
Insurance	1,587	1,664
Legal	275	333
Pensions	206	145
Records	28	33
Schools	42	37
Total	3,436	3,155

Months.	Amounts Received.	Paid Death Transcripts.	Paid Birth Transcripts.	Free Birth Transcripts.
January	$123 00	226	20	47
February	111 00	200	22	64
March	118 50	212	25	69
April	102 00	182	22	93
May	100 00	183	17	85
June	96 94	166	27	198
July	113 50	203	24	67
August	78 00	128	28	50
September	77 50	126	29	52
October	84 50	152	17	60
November	89 00	162	16	33
December	78 00	140	16	16
Total	$1,171 94	2,080	263	834

Total number of applications for transcripts were 4,523, and of which there were no record of 1,367.

Respectfully submitted,

George C. Wedderburn,
Registrar's Clerk.

Report of Complaint Clerk.

BALTIMORE, December 31, 1914.

NATHAN R. GORTER, M. D.,
Commissioner of Health.

DEAR SIR:

I respectfully submit herewith report of work done through the office of Complaint Clerk for the year ending December 31, 1914.

You will note there are two tables, one showing the total number of personal complaints, the other giving a list of those abated with the assistance of the Plumbing Division.

In addition to these two tables, there were received from the various police districts 4,952 reports containing 28,248 complaints of nuisances, from which, and including the personal complaints, there were sent out from this office by the health wardens 34,365 notices.

To classify all complaints received in this office under their respective headings would require a space entirely too large to have same arranged properly in book form. I have, therefore, given those of most frequent occurrence, while others, which are made up of various and trifling causes are placed under the heading of "Unsanitary Conditions."

The connections of numerous dwellings in the city with the new sanitary sewers during the year 1914 should naturally improve conditions considerably as far as overflowing privies, defective drainage, water in cellars and yards, etc., are con-

cerned, but at the same time it can be seen that the new system will, for the time at least, require considerable attention of this Department in the abatement of nuisances, such as choked sewers and other conditions in consequence of same.

Respectfully submitted,

B. F. Boyden,
Complaint Clerk.

Personal Complaints.

Wards.	Overflowing Privies.	Alleys Requiring Attention.	Water in Cellars.	Defective Drainage.	Inspection of Yards.	Defective Wells.	Inspection of Toilets.	Inspection of Cellars.	Choked Sewers.	Insufficient Toilets.	Unsanitary Conditions.	Inspection of Workshops.	Total.
First	15	12	23	14	4	1	9	3	3	2	22	.....	108
Second	14	8	19	10	12	.....	11	4	4	.....	30	.....	112
Third	31	10	26	9	18	1	27	7	11	3	70	6	219
Fourth	36	24	54	10	16	.....	26	2	8	15	85	3	279
Fifth	49	28	40	18	30	3	43	9	10	5	60	6	301
Sixth	38	42	48	12	26	2	30	5	16	.....	42	.....	261
Seventh	23	25	42	14	17	.....	17	7	9	.....	38	.....	192
Eighth	84	32	52	12	21	4	27	9	12	.....	42	.....	295
Ninth	41	26	29	30	12	5	16	5	7	.....	61	.....	232
Tenth	48	29	34	8	29	2	24	6	11	.....	32	.....	223
Eleventh	40	26	23	7	28	7	19	4	4	.....	27	.....	185
Twelfth	26	32	19	20	26	6	14	.....	6	.....	33	.....	182
Thirteenth	64	24	25	32	20	2	23	2	7	.....	40	.....	239
Fourteenth	52	28	19	15	29	3	35	4	20	.....	28	.....	233
Fifteenth	69	38	32	41	32	4	21	.....	14	.....	76	.....	327
Sixteenth	86	42	12	17	13	5	18	8	10	.....	27	.....	238
Seventeenth	60	18	11	6	19	2	22	2	4	1	31	.....	176
Eighteenth	46	15	8	4	13	3	17	2	15	.....	23	.....	146
Nineteenth	64	52	15	6	9	7	11	7	3	.....	32	.....	206
Twentieth	44	36	20	22	8	2	6	6	4	.....	46	.....	194
Twenty-first	32	15	16	14	7	6	11	3	2	.....	29	.....	135
Twenty-second	24	12	20	6	18	.....	15	5	16	2	37	.....	155
Twenty-third	54	27	18	16	11	1	5	4	2	.....	34	.....	172
Twenty-fourth	46	23	32	14	12	2	7	4	1	.....	32	.....	173
Total	1,086	624	637	357	430	68	454	108	199	28	977	15	4,983

Referred to Plumbing Division.

Wards.	Overflowing Privies.	Alleys Requiring Attention.	Water in Cellars.	Defective Drainage.	Water in Yards.	Defective Wells.	Inspection of Toilets.	Inspection of Cellars.	Choked Sewers.	Water in Manholes.	S'w'ge Backing Into Cellars.	Unsanitary Conditions.	Total.
First	2	...	12	1	...	...	...	...	4	...	...	...	19
Second	1	1	8	1	2	...	...	...	2	...	...	...	15
Third	...	...	30	...	3	...	2	...	12	...	...	...	47
Fourth	...	...	42	4	2	...	...	...	16	...	...	...	64
Fifth	1	...	21	...	...	...	3	...	13	...	...	...	38
Sixth	...	...	27	2	...	...	...	...	16	...	...	2	47
Seventh	...	...	32	1	...	...	...	...	6	...	...	...	39
Eighth	2	1	26	...	...	...	...	...	15	...	...	...	44
Ninth	3	...	15	2	2	...	...	...	13	...	...	3	38
Tenth	2	...	26	3	...	...	...	...	20	...	...	1	52
Eleventh	4	...	17	1	...	...	...	...	6	...	...	...	28
Twelfth	2	1	21	...	...	...	2	...	8	...	...	...	34
Thirteenth	1	...	19	...	...	...	...	...	7	...	...	...	27
Fourteenth	5	...	8	...	1	...	...	...	18	...	...	...	32
Fifteenth	1	...	30	1	...	...	...	...	16	...	...	3	51
Sixteenth	2	...	19	2	...	...	...	...	8	...	...	...	31
Seventeenth	2	...	16	...	...	...	...	...	3	...	...	...	21
Eighteenth	3	...	7	...	...	...	...	...	8	...	...	...	20
Nineteenth	1	...	6	...	...	...	...	...	...	...	...	...	7
Twentieth	...	...	4	1	...	...	...	...	2	...	...	...	7
Twenty-first	...	...	2	...	...	...	...	...	...	...	...	...	2
Twenty-second	2	...	18	...	...	...	...	...	13	...	...	1	34
Twenty-third	...	...	6	...	...	...	...	...	...	...	...	...	6
Twenty-fourth	1	...	15	...	...	...	...	...	...	...	...	...	16
Total	35	3	429	19	10	...	7	...	206	...	...	10	719

Report of Burial Permit Clerks.

BALTIMORE, January 1, 1915.

NATHAN R. GORTER, M. D.,
Commissioner of Health.

DEAR SIR:

We hereby respectfully submit the report of the work done by the burial permit clerks for the year ending December 31, 1914.

The following table exhibits a summary of the various kinds of permits issued during the year:

MONTHS.	Burial Permits, City.	Burial Permits, Transit.	Burial Permits, Still Births.	Burial Permits, Shipping.	Burial Permits, Shipping Dup't.	Burial Permits, Disinter.	Removal Permits.	Total.
January	989	153	89	122	122	10	496	1,981
February	943	137	71	110	110	16	471	1,858
March	1,129	133	97	137	137	12	530	2,175
April	937	132	95	120	120	64	441	1,909
May	865	117	95	123	123	52	432	1,807
June	757	113	85	111	111	8	383	1,568
July	897	130	86	119	119	2	498	1,851
August	845	138	57	102	102	1	478	1,723
September	771	109	77	96	96	48	490	1,687
October	736	109	80	98	98	44	415	1,580
November	791	136	79	107	107	69	401	1,690
December	835	170	111	131	131	9	575	1,962
Total	10,495	1,577	1,022	1,376	1,376	335	5,610	21,791

During the year there were received from cemeteries and transportation companies 14,805 burial, disinterment and shipping permits, which have been placed in numerical order, and the same have been filed for reference.

Respectfully submitted,

HARRY C. ANDREWS,
ROBERT R. KRAUTER,
Burial Permit Clerks.

Report of Nuisance Clerk.

BALTIMORE, January 1, 1915.

NATHAN R. GORTER, M. D.,
Commissioner of Health.

DEAR SIR:

The following is the report of the work done in the Nuisance Department for the year ending December 31, 1914:

MONTHS.	Permits Issued.	No. of Loads to Winan's Dump.
January	741	758
February	525	541
March	1,255	1,294
April	1,854	1,890
May	1,454	1,463
June	1,216	1,247
July	933	941
August	752	765
September	741	768
October	771	782
November	524	548
December	530	549
Total	11,296	11,546

Respectfully submitted,

EDWARD H. THOMPSON,
Nuisance Clerk.

Report of Index Clerk.

BALTIMORE, January 1, 1915.

NATHAN R. GORTER, M. D.,
Commissioner of Health.

DEAR SIR:

I beg to submit the following report of work performed by the Index Clerk during the year ending December 31, 1914:

Number of deaths indexed	10,551
Number of births indexed	12,637
Number of still births indexed	1,026

I have also kept a record of all birth certificates, and have posted same on cards, showing what certificates have been received and the name of the doctor or midwife who have registered same.

Respectfully submitted,

CHARLES M. SINCLAIR,
Index Clerk.

Report of Clerk to Bureau of Vital Statistics.

BALTIMORE, December 31, 1914.

NATHAN R. GORTER, M. D.,
Commissioner of Health.

DEAR SIR:

I hereby respectfully submit for your consideration the report of the Division of which I have supervision.

All cases of infectious diseases reported have been recorded and placed on file.

Report cards of health wardens of such cases have also been placed on file for reference. Cards of physicians reporting contagious diseases to this Department have been filed in their respective wards.

Below will be found the number of cases reported from January 1, 1914, to December 31, 1914.

	1914.	1913.
Smallpox	325	50
Diphtheria	1,233	1,309
Scarlet fever	802	1,138
Typhoid fever	757	1,163
Measles	466	5,724
Mumps	602	161
Whooping cough	522	290
Varicella	788	595
Tuberculosis pulmonalis	1,410	1,541
Poliomyelitis	1	2
Cerebro spinal fever	3	....

The record of midwives has been kept and transcripts sent to the State Board of Health; also a record of licenses for the purpose of boarding babies have been kept, after being reported on by the health wardens in wards where the applicant resided.

Respectfully submitted,

CHARLES W. BUSICK,
Clerk to the Bureau of Vital Statistics.

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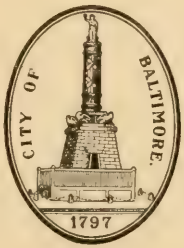
Annual Report

Department of Legislative Reference

To the MAYOR AND CITY COUNCIL OF BALTIMORE *for the* FISCAL YEAR ENDED DECEMBER 31,

1914



BALTIMORE
MEYER & THALHEIMER
CITY PRINTER

1915

REPORT

BALTIMORE, January 2, 1915.

To the Honorable the Mayor and City Council of Baltimore.

GENTLEMEN:

I submit herewith the annual report of the Department of Legislative Reference for the year ending December 31, 1914.

The past year has been the busiest one for the Department since its establishment and more efficient work was done. Since information is being continually collected and indexed the usefulness of the Department will be greater each year, and, consequently, in a position to render more efficient service. The 1913 report contains a copy of a letter which was sent to the members-elect of the General Assembly of the State, and I am pleased to report that these letters were very effective, for a great many members of the Legislature called upon the Department for information in connection with pending legislation.

As during the previous sessions, since the establishment of the Department, fifteen copies of all bills introduced into the Legislature were received, and these bills were indexed each day. A card was devised to show the progress of the bills through the Legislature and this was done for the more important bills and particularly for the Baltimore city bills. This record was kept up to date until towards the close of the Legislature, when the House and Senate Journals were not printed daily. Notwithstanding this handicap, however, the index and record of bills kept on file here proved of the greatest value to city and State officials and to the public generally. There was no other place where a complete index and record of all bills pending before the Legislature could

be found. The Department was also fortunate in securing one copy of each bill as finally passed, for at the last session of the Legislature provision was made for substituting printing instead of engrossing for bills on final passage; but as six or seven copies only were made of these bills, the Department was particularly fortunate in securing one of these. I went to Annapolis every few days towards the close of the Legislature, in order to secure the list of bills as passed and submitted to the Governor. In this way the chapter number was given to every bill as passed and this information was indicated on our index cards, together with the date of approval or veto by the Governor. There was, therefore, on file in this Department a complete file of all bills as introduced and a complete file of all laws as enacted by the Legislature, and as there was a complete subject index of these Acts it proved of the greatest value to those interested in recent legislation, and particularly to lawyers. This was the only set of the laws in the city in that form, and as the official set filed with the Clerk of the Court of Appeals was quite inconvenient for those wishing to consult them, and was furthermore not indexed, it seems plausible to state that the file here was used to a much greater extent than the one at Annapolis. When it is stated that there where 754 Senate bills and 1,009 House bills, making a total of 1,763 bills, and that of these 864 became laws, the amount of work involved in keeping this record up to date may be realized, especially when it is remembered that frequently two or more cards had to be used for indexing each bill. This instance is cited merely to show that the Department loses no opportunity to do everything possible to increase its usefulness and efficiency and from the increasing use made of it, it seems that our efforts are appreciated. The Department has a complete file of all the bills introduced at the 1908, 1910, 1912 and 1914 sessions of the Legislature, all fully and completely indexed.

The Department has been receiving a duplicate copy of every ordinance and resolution introduced into the City

Council during the past two years and these are indexed each day as received. This index also shows who introduced the ordinance, to what committee referred, and shows every stage of progress of the ordinance from introduction until approval by the Mayor. It is the only place in the city where there is a file of all ordinances as introduced and this system has proved of the greatest assistance to members of the City Council, to city officials, and to the public generally, for heretofore it was impossible to examine ordinances pending before the Council except on the days on which the Council met.

The total expenditures of the Department for the year 1914 were $3,689.89.

The city and State officials have been extremely kind and courteous in furnishing the Department with information, reports, etc., when so requested, and I desire to take this occasion again to extend my thanks for the hearty co-operation and assistance which has been rendered the Department by them.

I also desire to take this occasion to express again my appreciation for the industrious and efficient work of my assistants, Misses Ella S. Hitchcock and Nellie W. Mewshaw, who have aided so greatly in increasing the usefulness and efficiency of the Department, and who have declined to leave the Department for more remunerative positions.

Very respectfully submitted,

HORACE E. FLACK,
Executive.

FIFTY-FIFTH ANNUAL REPORT

OF THE

Board of Park Commissioners

TO THE

Mayor and City Council of Baltimore

FOR THE

FISCAL YEAR ENDING DECEMBER 31, 1914

BALTIMORE
MEYER & THALHEIMER
CITY PRINTER

1915

Board of Park Commissioners

OF THE

CITY OF BALTIMORE, MARYLAND

1914

GEORGE WEEMS WILLIAMS, *President.*
JOHN S. GITTINGS,
JAMES T. STUART,
GEORGE W. HABBERSETT,
JOHN B. RAMSAY.

WILLIAM S. MANNING, *General Superintendent.*
J. V. KELLY, *Secretary-Treasurer.*

Report of the Board of Park Commissioners

BALTIMORE, March 15, 1915.

To the Mayor and City Council of Baltimore.

GENTLEMEN — The most noteworthy event in the year's history of this Department was the acquisition of the Fort McHenry property, for park purposes, due to the earnest and effective efforts of his Honor, the Mayor, and the hearty co-operation of the Maryland representatives in the Federal Senate and House of Representatives. Aside from its great historic interest it presents an opportunity both by reason of its location and area for the development of a water-side park which will fully measure up in beauty and recreational facilities to the requirements of our city and its importance as a leading seaport.

Another development in the parking scheme planned some years ago, which was commenced in 1914, is the opening, improving and parking of Thirty-third street. When completed this parkway will, with the Alameda, furnish a parked connection between Wyman and Clifton Parks.

It is to be hoped that the city will be able to take up, in the year 1916, the work of building Gwynn's Falls Parkway, which will link up Druid Hill and Gwynn's Falls Parks. All the work of assessing benefits and damages for this improvement has been done by the Board of Street Opening Commissioners, but a number of appeals by property holders have been filed, which will probably be disposed of this year. This Board is willing to make an appropriate contribution to this improvement, for it feels that it will not only add to the beauty of the city, and be a very attractive feature of our

park system, but when completed will be of great utility and substantially increase the taxable basis.

The athletic facilities continue to increase in popularity. It is planned this year to build a swimming pool in Clifton Park. It is desirable that each one of our larger parks should have a swimming pool and the suggestion that when there are sufficient of these swimming pools, swimming should be taught as part of the curriculum of the public schools, has met with public approval. We also should have athletic field houses in all the larger parks, similar to those at Patterson and Latrobe Parks.

The new athletic field for baseball and football, located in the addition to Patterson Park, has been opened up for use. The area formerly used for this purpose at this park will be devoted to small baseball diamonds for young boys, croquet and quoits.

Both the Children's Playground Association and the Public Athletic League are continuing their good work in developing, organizing and stimulating recreational and athletic activities among the children and youth of the city, and they deserve and receive the hearty co-operation of this Department.

The work of the Department is shown in considerable detail by the report of the General Superintendent, which is hereto attached.

Respectfully submitted,

BOARD OF PARK COMMISSIONERS,

GEORGE WEEMS WILLIAMS, *President.*

Report of the General Superintendent

BALTIMORE, March 1, 1915.

To the Honorable Board of
Park Commissioners of Baltimore.

GENTLEMEN—Following is a general summary of the operations of the Department of Parks and Squares for the year 1914.

There was appropriated for the expenses of maintenance in the parks and squares for 1914, $551,554.00, and for new improvements and extension $158,727.10, making a total of $710,281.10.

The total park area of two years ago, 2,301.64 acres, divided into fifty separate parkings, is each year being added to by additional small areas, some left from street surfacing rearrangements and others by acquirement of properties called for in the Board's 1904 scheme of park extension, as outlined in the report of the Development of Public Grounds for Greater Baltimore, but these additional areas amount to very few acres as a total.

The advance in providing facilities for athletic and playground purposes continues and the popularity of such features is ever increasing.

The care of the parks is a matter requiring each year additional alert attention and more expenditures to keep pace with the constantly increasing use of the parks, not only in the athletics, playground, swimming, picnicking, driving, riding and automobiling facilities, but in the provisions for seating and surrounding thousands of people who come to the parks and squares for quiet, restful recreation.

Before the use of the automobile, gravel and softer road surfaces were most popular, so that horses could safely and comfortably get about over them; now such road surfaces need to be hard and smooth surfaced to provide for the greater wear of the automobile, and whereas gravel paths were generally used in the larger parks some years ago, now all much used paths must be hard surfaced to accommodate the many people who use them daily, from fall to spring, during which period gravel surfaced paths would be wet and uncomfortable to use.

The increased need of facilities for active recreations, such as playgrounds, game fields, tennis courts, swimming pools, etc., is far beyond the financial possibilities of the Park Department to provide for, and every year the further deferring of many topics long needed is necessary, because so much of the funds outside the amount necessary for maintaining the parks and squares is required to provide additional facilities for active recreational areas and appliances.

Of land additions to the parks there was purchased in Gwynn's Falls Reservation on the Franklin Road, opposite the bridge known by that road's name, three small residential lots upon which were old and poorly kept houses which have been torn down and the cellars smoothed over. At Federal Hill Park, eight small and badly upkept houses, together with the land upon which they stood, were purchased, the houses torn down and this land is now being put into condition for a children's playground. At Herring Run a small farm property was purchased as a part of Herring Run Reservation.

Park spaces have been created by street improvements as follows:

At the intersection of Reisterstown Pike with Park Heights avenue, Woodberry avenue and the Old Pimlico Entrance to Druid Hill Park a large central oval and an encircling parking space was created, but is yet to be put in park condition.

At Guilford avenue and the Fallsway more parking spaces have been created, also one at the foot of the Fallsway at Baltimore street.

At St. Paul street and Centre street.

Charles Street Triangle, at the intersection of Charles Street Boulevard, University Parkway and Thirty-seventh street.

Ensor Street Triangle, at the intersection of Eager street, Harford avenue and Ensor street.

Sharp Street Triangle, at the intersection of Sharp street, Hill street and Montgomery street.

Riverside avenue parking, on the east side of Riverside avenue, south of Warren street.

A parking strip on Liberty Heights avenue west of Reisterstown Road.

A central parking strip on Thirty-third street, both north and south of the old York Road.

A central parking strip on Druid Hill-Gwynn's Falls Parkway, east of Garrison avenue.

Druid Hill Park entrance improvements at the Pimlico Circle commenced by receiving a portion of the necessary earth and rock filling material excavated by the improvement along Reisterstown Road, and by building a log cribbing ten feet inside of the proposed faces of the masonry walls which are to be built to support the driveway for the new Pimlico Entrance into the park from Pimlico Circle. During the summer this crib building was discontinued and late in the fall the crib building was resumed and is yet continued. In about one month we hope to have the crib building and temporary bridging of the old "Dell Road" completed, and during this coming summer to receive the earth filling material inside of the easternmost log crib, from which eventually there is to be built a driveway running through the high oaks towards the Old Rogers Burying Ground into the driveways

leading to Green Spring avenue and also towards the Sea Lion Pond and the woods drives beyond. Another driveway will leave the easternmost crib and run to the junction of the present "Pimlico Drive" and Locust Drive. After this driveway is completed the present Pimlico Driveway from this junction to the Reisterstown road will be converted into a lawn.

Forestry thinning and trimming of trees and the combating of injurious tree and shrub insects has been persistently followed throughout the year with a force of about twenty men.

Road improvements at Druid Hill Park have been in the nature of adding crushed stone to properly reform their cross section and profile, then penetrating this stone with heavy tar and asphalt binders. On Greenspring avenue there was placed about five thousand tons of crushed stone from the Druid Hill Park Quarry which was operated throughout the year and an earth binder was then used.

At Clifton Park the roads are of gravel, bound with clay; those roads were largely resurfaced with such materials.

Along the roadway from the North Avenue Entrance to Clifton Park, to the Water Department's gate house at Lake Clifton, was placed concrete curbing and concrete gutters.

At Patterson Park many of the roadway gutters were relaid and a large amount of crushed stone placed upon the road surfaces.

At Carroll Park about one-half of the roads were resurfaced with gravel and a tar and gravel binder was applied to about one-half of the road surfaces.

Path improvements at Druid Hill Park were made by placing upon the surface of old gravel or crushed stone paths about four inches of crushed stone, penetrating this with heavy tar and asphaltum binders.

At Wyman Park in the valley alongside of Charles street there were concrete paths built.

At Patterson Park, as well as its new extension, concrete paths were constructed, and also all the paths at Bolton Square were surfaced with concrete. The concrete surfaces were all treated with a heavy tarvia and this covered with stone screenings for a finished walking surface.

At Clifton Park a concrete path was laid alongside of the driveway from the North Avenue Entrance to the Water Department's gate house at Clifton Park, and also to the music shell seating space. At Carroll Park a cement path was laid.

At many of the small parks or squares the cement paths were repaired, and in the greenhouses of Druid Hill Park, Clifton Park and Carroll Park cement paths were laid. Cement platforms for drinking fountains were laid in several parks.

A new greenhouse for growing bedding plants was built at Clifton Park and another new greenhouse was built at Woodyear Mill. At Harlem Park the glass portion of the greenhouse was almost entirely rebuilt, it being very old and the woodwork badly decayed. At Druid Hill Park Conservatory a large amount of the framework for the glass was badly decayed; new was substituted. At Clifton Park an old greenhouse belonging to Johns Hopkins and used by him was torn down because of its very badly decayed condition.

At Druid Hill Park, Wyman Park and at Patterson Park Extension there were 48,342 trees and shrubs planted in groups, hedges or lines.

Druid Hill Park bridle paths for equestrians, 3.7 miles were improved, and a decision to lay out 2.3 miles in addition, making a total of about six miles in Druid Hill Park.

Guard rails of red cedar were erected in Druid Hill Park and Wyman Park to safeguard vehicles from steep slopes adjoining the driveways.

All old rustic shelters and rustic bridges in Druid Hill Park were rebuilt with red cedar and fifty rustic seats, with a seating space for five people on each, were constructed for that park.

A new garage for two automobile trucks was built at Druid Hill Park and a new carriage house.

Athletic features were added at Patterson Park Extension by a new ten-acre game field, well fenced, lighted and surrounded by a park-like treatment of ten acres. This, too, is well fenced, lighted, cement pathed, tree and shrub planted and lawned, as well as furnished with benches for seating people. In the original athletic area of Patterson Park about twelve additional tennis courts were installed and furnished with hard surfaces and a children's garden laid out. The lighting system of the running track and swimming pool was improved by a more intense lighting so that evening events could be successfully held.

At Clifton Park the lighting system alongside of the driveway approach from North avenue was improved by installing high-candle-power incandescent, underground-fed electric lights in place of the old naphtha lamps of low candle-power.

At Riverside Park the athletic field and children's playground were much improved and better lighted.

At Latrobe Park the lighting system was strengthened and three tennis courts installed and thousands of cubic yards of filling received on the new extension.

The use of Fort McHenry grounds to the extent of about forty acres was turned over to the City of Baltimore by the United States Government, to be under the jurisdiction of the Board of Park Commissioners, for public park purposes.

The Park Board expended about $12,000.00 upon the lighting, cleaning, and maintenance of the lawns, driveways, paths, etc., for the last six months of the year.

To give an idea of the popularity of the active recreational features of the parks a few figures are given showing the number of persons using or viewing them.

Permits issued for baseball games in the various parks	4,000
Permits issued for tennis games in the various parks	19,454
Permits issued for picnics in Druid Hill and Clifton parks	363
Users of athletic grounds and children's playgrounds at City Springs	108,388
Users of athletic grounds and children's playgrounds at Latrobe	48,750
Users of athletic grounds and children's playgrounds at Riverside	60,197
Users of swimming pool for bathing at Patterson Park	154,176
Users of indoor baths for bathing at Patterson Park	34,000
Users of indoor baths for bathing at Latrobe Park	15,257
Attendance at only a few occasions at Patterson Park	396,964

No record was made of the number of people attending the picnics, but on some single days as many as 3,500 attended picnics in Druid Hill Park.

Respectfully submitted,

WILLIAM S. MANNING,
General Superintendent.

PARK ACREAGE, DECEMBER 31, 1914.

	Acquired.	Acreage.	Ground Rent.	Cost.
Mt. Vernon Squares (2)	1815	1.4	.....	Donated.
Washington Place Squares (2)	1815	.9	.....	Donated.
Eastern City Spring Square	1818	1.3	.....	$15,000 00
Patterson Park	1827	128.44	.....	465,157 29
Franklin Square	1839	2.3	.....	10,000 00
Jackson Square	1844	.6	.....	Donated.
Union Square	1847	2.0	.....	Donated.
Broadway Squares (19)	1851	5.7	.....	28,661 48
Ashland Square	1851	.01	.....	200 00
Madison Square	1853	3.4	.....	30,000 00
Eutaw Place Squares (9)	1853	5.6	.....	60,000 00
Lafayette Square	1859	2.9	.....	15,000 00
Druid Hill Park	1860	674.16	.....	720,760 53
Park Place Squares (5)	1860	1.7	.....	Donated.
Riverside Park	1862	17.2	$3,770 62*	77,488 78
Fulton Avenue Squares (17)	1866	4.0	.....	Donated.
Harlem Park	1869	9.05	.....	Donated.
Wilkens Avenue Squares (7)	1870	1.6	.....	30,000 00
Perkins Spring Square	1873	1.5	2,052 00*	34,200 00
Mt. Royal Squares (7)	1874	2.0	.....	9,790 28
Johnston Square	1877	2.5	.....	20,000 00
Federal Hill Park	1879	8.42	37 50	106,135 46
Collington Square	1880	5.0	960 00*	24,000 00
Liberty Triangle	1880	.02	.....	Donated.
Taney Place Squares (2)	1881	.8	.....	Donated.
Mt. Royal Terraces (3)	1884	2.0	.....	44,677 58
Carroll Park	1890	176.74	.....	307,229 42
Bolton Park (Mt. Royal Station)	1891	3.52	.....	103,433 00
Frick Triangle	1892	.05	.....	Donated.
Brewer Square	1892	.39	.....	Donated.
Bo-Lin Square	1893	.23	.....	Donated.
Maple Place	1893	.07	.....	Donated.
Clifton Park	1895	267.26	.....	754,125 81
Linden Avenue Triangle	1895	.01	.....	Donated.
Green Spring Avenue	1896	25.5	.....	Donated.
Callow Triangle	1898	.03	.....	Donated.
Gwynn's Falls Park	1902	391.05	.....	329,809 80
Latrobe Park	1902	13.80	.....	40,590 00
Swann Park	1902	11.31	.....	39,474 52
Wyman Park	1903	198.39	.....	122,604 12
Fifth Regiment Armory	1904	.25	.....	Donated.
City College Lot	1904	.14	.....	Donated.
Riggs Triangle	1905	.02	.....	456 00
Venable Park	1907	60.81	.....	67,726 00
Ashburton Park	1907	92.65	.....	36,052 40
Herring Run Park	1908	182.87	.....	112,059 46
Charles Street Boulevard	1908	2.28	.....	23,823 51
Philadelphia Triangle	1910	1.0	.....	26,737 52
Easterwood Park	1911	7.52	.....	23,500 00
Mondawmin Squares	1911	.26	.....	Donated.
Total Park Acreage	.....	2,320.65	.....	$3,678,692 96

*Owned by Commissioners of Finance.

FOURTH ANNUAL REPORT

OF THE

PAVING COMMISSION

To the Mayor and City Council of Baltimore for the Fiscal Year Ended December 31, 1914

BALTIMORE
MEYER & THALHEIMER
CITY PRINTER

1915

PAVING COMMISSION'S REPORT

OFFICE OF THE PAVING COMMISSION,

BALTIMORE, MARYLAND,

BALTIMORE, January 1, 1915.

HON. JAMES H. PRESTON, *Mayor.*

DEAR SIR—In accordance with the requirements of Section 1, Chapter 401, Acts of General Assembly of Maryland for the year 1906, the Paving Commission has the honor to make the following report of its operations and transactions for the period embraced from December 31, 1913, to the close of business December 31, 1914.

MEETINGS.

The regular sessions of this Commission are usually held on Wednesdays at 3.15 P. M. in the Council Chambers. During the year forty-five sessions were held, at which a quorum was present at forty.

In this connection we regret to record the death on May 10, 1914, of Gen. Alfred E. Booth, a valuable member of this Commission. His death was not only a loss to the Commission itself, but to Baltimore city at large. On May 27, 1914, Your Honor appointed in General Booth's place Mr. William S. Thomas.

MATERIALS.

The Commission is adhering to the standard pavements, such as sheet asphalt, vitrified block, granite block and wood block (the latter to a very limited extent, owing to the heavy grades existing in this city); all on a concrete foundation.

On several of the down-town streets formerly paved with old style granite blocks, sheet asphalt was substituted and the old granite blocks have been recut and relaid on a concrete foundation on heavy traffic streets, giving most excellent results, and results far better than expected.

Owing to the very slight difference between the cost of bituminous concrete and sheet asphalt, no further contracts are being awarded now for the former material, and we are adhering to the standard asphalts almost exclusively.

We have experimented during the year 1914 with cement concrete in alley construction. Where we have been enabled to construct the crown section, this work has given satisfaction, but where we were compelled to construct the depressed section it has not done so well. After our plans become more perfected for this class of work, this construction will save the City of Baltimore considerable money for alley work in place of the standard vitrified block. It can only be laid, however, in alleys where the traffic is exceedingly light.

It will be recalled that our original estimate of ten million dollars was for the elimination of cobblestones in the territory south of North avenue, excluding the Annex section. It was deemed advisable, however, to vary from this program and improve some of the down-town business streets formerly paved with old style granite, such as Baltimore street, from Harrison street to Fremont avenue; Howard street, from Baltimore street to Centre street; Eutaw street, from Baltimore street to Madison street; South street, from Fayette street to Pratt street; and Charles street, from Chase street to North avenue. As the traffic can be kept moving, there being very little standing vehicles along the curbs, sheet asphalt was used almost exclusively in order to lessen the noise. Wood blocks were used on South street, from the rails to the curbs, on account of the narrowness of the street, the extent of standing traffic and light grade, and particularly because there are many financial institutions along this street. On all of

these streets from two to eight car lines were continually passing, in some instances with only a few seconds headway. These streets were improved with new paving, six inches of concrete installed under and around the ties, and all cars kept in service. When one considers that in nearly every other city in this country where such work is being done the cars are rerouted, the quality of the work obtained under our process and the speed with which the work was done would seem to be encouraging.

In addition to the streets in the business section which have been enumerated, our operations were carried on in every section of the city, except extreme West Baltimore, where the sewers have not been completed. A full list of streets paved during the year 1914 will be found in Table C-3 and a full detail of materials in the minutest character is on file in this office and can be presented at any time in pamphlet form.

Three new streets, or sections thereof, were opened and the grading or paving done by the Commission during the year as follows: Covington street, Cross street to Gittings street, graded; west drive of Aisquith street, Baltimore street to Fayette street, graded and paved; Courtland street, Franklin street to Centre street, known as the Courtland-St. Paul-Centre Street Plaza, graded and paved (under this scheme the drive of St. Paul street was widened so as to correspond with any future widening south of this point).

In connection with the Aisquith street and Courtland street improvements parks were established, together with the necessary grass and tree planting.

A glance at the paving map of this city will show that the Commission has adhered very strictly to a general plan. North, Northeast, East and South Baltimore have been particularly well cared for. In one contract alone twenty-two sections of streets in South Baltimore were improved. As previously stated, however, our operations are limited to those

territories where the sewers, both sanitary and storm, have been completed.

All city departments and public service corporations are also compelled to install their work ahead of the paving, and in this connection a system of notices, correspondence and "warning" signs has been developed to such an extent that cuts in an improved pavement after it has been installed have been reduced to a minimum. This system is so feasible and practical that it has attracted national notice, not only from municipalities, but from technical institutions.

We have continued to give the street railway construction in this city considerable study, so that at the meeting of the Legislature in 1914 a bill was passed putting the control of the foundation under the ties of the street railway tracks in the hands of the Paving Commission. Therefore, on the heaviest traffic streets in the business section the Commission usually specifies six inches of concrete under and around the ties, to be installed at the expense of the respective railway companies; on all other streets rock ballast is specified. After full consideration of the matter, this concrete is now installed by means of the penetration method, using a grouting machine. This method is so simple and practical that it can be installed without any interruption whatsoever to passing car traffic and still obtain sufficient rigidity to maintain the track structure and, therefore, the paving adjacent thereto. There is no question that such construction is an advantage not only to the track structures, but to the equipment, as well as the paving, causing, certainly in the future, less expense to the corporation or municipality which has to maintain the track and paving.

We maintain that a close examination of our contract figures will show that Baltimore is obtaining pavements in as economical a manner as any other city in the United States, consistent with good work.

We still maintain the same engineering and inspection organization for both street and plant inspection as was developed in 1912—the first year of our operations. Most of

the men are still with us, and we believe we have steadily developed an expert organization.

Contracts to the number of twenty-seven were awarded during the year and a total of one hundred from the inception of the Commission's work to December 31, 1914. The 1914 contracts ran from $4,500 to $196,000 in value, in order to attract bidders of both large and small capital. There is no question but that the contractors generally have now more expert organizations, can do better work and can do it more rapidly and more economically than at the inception of the Commission's work.

Contracts to the value of $118,582.07 remain uncompleted on December 31, 1914, and are therefore carried over to the year 1915.

In connection with the mileage of work installed, a better idea can be conveyed to the public mind when it is stated that the amount of mileage done during the year 1914, figured into a roadway thirty feet wide, would very nearly equal the mileage between the Washington Monument in Baltimore and the Washington Monument in Washington, D. C.; and the total mileage installed during the years 1912, 1913 and 1914, figured at a width of thirty feet, would equal the distance, approximately, from Baltimore to Philadelphia.

Disbursements.

Our disbursements for the year are explained in the attached statements, which have been checked by the City Comptroller. That official has also been furnished with a more detailed statement, showing disbursements during the year, and all accounts have been audited by the Harvey S. Chase Company to the close of business December 31, 1914.

In addition to the statements herein contained, there is on file in the office of the Secretary a ledger account, showing the amount expended under each contract and also the amount expended on each street individually.

You will note that a total of $1,574,554.82 was expended during the year 1914. Taking into consideration, however, our December estimates, which are to be paid in 1915, and the retained percentages on 1914 work, which will be paid in 1915, less December, 1913, estimates and retained percentages on 1913 work, which were paid in 1914, the financial value of the work done during the year 1914 was $1,621,778,13. Cost of engineering, surveys and inspection during the year was 3.1 per cent. of the total expenditure. This includes considerable advance work on surveys and plans for 1915.

Again, taking into consideration all overhead expenses for 1914, such as administrative salaries, construction salaries, testing materials, incidental expenses (including the four clerks in the Appeal Tax Court for collecting the paving tax), this expense amounts to 4.6 per cent. of the total expenditures.

All overhead expenses from the inception of the Commission's work to December 31, 1914, amount to 4.88 per cent. of the total amount of work.

Attached herewith are: Table No. 1, showing the personnel of the Commission, and Table C-3, showing streets on which work was done in 1914; also map showing streets paved in entire city by all departments, the State Roads Commission and private parties.

Respectfully submitted,

R. KEITH COMPTON,
Chairman and Consulting Engineer,
JAMES H. PRESTON,
Mayor, Ex Officio,
DOUGLAS H. THOMAS,
LEONIDAS G. TURNER,
SAMUEL C. ROWLAND,
WILLIAM S. THOMAS,
Paving Commission.

J. MYERS HEDIAN, *Secretary.*

TABLES

TABLE No. 1—PERSONNEL OF PAVING COMMISSION.

Name.	Title.	Appointed.	Remarks.
R. Keith Compton	Chairman	May 31, 1911	
James H. Preston	Mayor		Ex officio.
Douglas H. Thomas	Commissioner	May 31, 1911	
Alfred E. Booth	Commissioner	May 31, 1911	Died May 10, 1914.
Leonidas G. Turner	Commissioner	May 31, 1911	
Samuel C. Rowland	Commissioner	May 31, 1911	
William S. Thomas	Commissioner	May 27, 1914	
J. Myers Hedian	Secretary	March 7, 1912	
William F. Gies	Stenographer	March 15, 1912	Promoted to Clerk.
W. Irving Bowie	Bookkeeper	February 26, 1913	
Ignatius E. McKenna	File Clerk	September 16, 1912	Resigned Sept. 15, 1914.
Martin Epple	File Clerk	October 5, 1914	

FINANCIAL STATEMENT.

Appropriations and Expenses for the Year 1914.

Appropriation, administrative salaries	$12,180 00
Total expenditures	11,367 52
Surplus of credit	$812 48
Balance to 1951 Loan	812 48
Appropriation, construction salaries	$52,600 00
Total expenditures	52,459 60
Surplus of credit	$140 40
Balance to 1951 Loan	140 40
Appropriation, expenses	$1,900 00
Total expenditures	1,899 66
Surplus of credit	$0 34
Balance to 1951 Loan	34
Appropriation, testing materials	$12,500 00
Total expenditures	12,496 62
Surplus of credit	$3 38
Balance to 1951 Loan	3 38
Appropriation, improved paving	$920,820 00
Amount brought forward from 1913	343,856 60
Amount received from other sources, per statement City Comptroller	58,361 71
Received account special paving tax (1913-1914)	181,542 23
Total credits	$1,504,580 54
Total expenditures	1,496,306 91
Surplus of credit	$8,273 63
Balance carried forward to 1915	8,273 63

Note—For detail report see Comptroller's report for 1914.

TABLE C-3.

STREETS ON WHICH WORK WAS DONE BY THE

Contract No.	Street.	From.
40	High street	E. B. L. Fallsway
52	McMechen street	E. B. L. Pennsylvania avenue
53	Eutaw street	N. C. L. Lee street
55	Andre street	N. B. L. Fort avenue
55	Federal street	E. B. L. Calvert street
61	Eastern avenue	E. B. L. East Falls avenue
61	Eastern avenue	W. B. L. Caroline street
61	Eastern avenue	E. B. L. Bond street
61	East Falls avenue	S. B. L. Aliceanna street
61	East Falls avenue	Driveway into Sewerage Pumping
61	President street	Driveway into Sewerage Pumping
61A	Doyle alley	N. B. L. Eastern avenue
65	High street	N. B. L. Eastern avenue
65	Pratt street	E. B. L. Central avenue
66	Brevard street	N. B. L. Mosher street
66	Buren street	N. B. L. Truxton street
66	Paca street	N. B. L. Baltimore street
67	Caroline street	N. B. L. Monument street
67	Federal street	E. B. L. Ensor street
67	Maryland avenue	N. B. L. Preston street
67	Maryland avenue	N. B. L. Mt. Royal avenue
67	Maryland avenue	S. B. L. Oliver street
67	Saratoga street	E. B. L. Pulaski street
68	President street	N. B. L. Lancaster street
70	Bond street	N. B. L. Eastern avenue
70	Chase street	E. B. L. Broadway
70	Chase street	W. B. L. Chester street
70	Eden street	N. B. L. Eastern avenue
70	Fayette street	E. B. L. Caroline street
70	Gough street	E. B. L. Central avenue
70	Monument street	E. B. L. Wolfe street
72	Battery avenue	S. B. L. Montgomery street
73	Battery avenue	N. B. L. Gittings street
73	Battery avenue	N. B. L. Hamburg street
73	Clement street	E. B. L. Race street

TABLE C-3.

PAVING COMMISSION DURING THE YEAR 1914.

To.	Material.	Remarks.
W. B. L. Front street	Granite block	Work started December, 1913.
W. B. L. McCulloh street	Vitrified block	
S. B. L. Camden street	Granite block	
S. B. L. Marriott street	Vitrified block	
W. B. L. Greenmount avenue	Vitrified block	Work started November, 1913.
W. B. L. Caroline street	Sheet asphalt	Granite block along and between outer rails.
E. B. L. Bond street	Granite block	
W. B. L. Broadway	Sheet asphalt	
N. B. L. Stiles street	Sheet asphalt	Granite block along and between outer rails.
Station	Vitrified block	
Station	Vitrified block	
S. B. L. Bank street	Granite block	
S. B. L. Pratt street	Sheet asphalt	Granite block between outer rails (work started October, 1913).
W. B. L. Broadway	Sheet asphalt	Granite block between outer rails (work started November, 1913).
S. B. L. Wilson street	Vitrified block	
S. B. L. Eager street	Vitrified block	
N. B. L. Fayette street	Granite block	
S. B. L. Chase street	Sheet asphalt	Vitrified block between outer rails (work started October, 1913).
W. B. L. Broadway	Sheet asphalt	Vitrified block between outer rails (work started October, 1913).
S. B. L. Mt. Royal avenue	Sheet asphalt	Vitrified block between outer rails.
S. B. L. Oliver street	Sheet asphalt	Granite block between outer rails.
South end P. R. R. Bridge	Granite block	
W. B. L. Payson street	Bituminous concrete.	
N. B. L. Fawn street	Granite block	Work started November, 1913.
S. B. L. Baltimore street	Sheet asphalt	Granite block between outer rails.
W. B. L. Castle street	Bituminous concrete.	Vitrified block between outer rails at cross streets.
W. B. L. Milton avenue	Bituminous concrete.	
S. B. L. Madison street	Sheet asphalt	Work started November, 1913.
W. B. L. Broadway	Vitrified block	Granite block between outer rails.
W. B. L. Broadway	Sheet asphalt	Granite block between outer rails.
W. B. L. Milton avenue	Sheet asphalt	Vitrified block between outer rails (work started October, 1913).
N. B. L. York street	Granite block	
S. B. L. Cross street	Sheet asphalt	
S. B. L. Montgomery street	Sheet asphalt	
W. B. L. Charles street	Sheet asphalt	

TABLE C-3.—*Continued.*

STREETS ON WHICH WORK WAS DONE BY THE

Contract No.	Street.	From.
73	Cross street	E. B. L. Scott street
73	Cross street	E. B. L. Sharp street
73	Cross street	E. B. L. Light street
73	Fort avenue	E. B. L. Hanover street
73	Hamburg street	E. B. L. Scott street
73	Henrietta street	E. B. L. Sharp street
73	Hughes street	E. B. L. Light street
73	Leadenhall street	N. B. L. Ostend street
73	Montgomery street	W. B. L. Leadenhall street
73	Montgomery street	E. B. L. William street
73	Paca street	N. B. L. West street
73	Patapsco street	N. B. L. Park avenue
73	Race street	S. B. L. Clement street
73	Riverside avenue	N. B. L. Hamburg street
73	Towson street	N. B. L. Fort avenue
73	Warner street	N. B. L. Stockholm street
73	West street	E. B. L. Sharp street
73	William street	N. B. L. Clement street
73	William street	N. B. L. West street
74	Barclay street	N. B. L. Oliver street
74	Laurens street	E. B. L. Druid Hill avenue
74	Oliver street	E. B. L. Maryland avenue
74	Presstman street	E. B. L. Pennsylvania avenue
74	Robert street	E. B. L. Pennsylvania avenue
74	Robert street	E. B. L. Linden avenue
74	Wilson street	E. B. L. Pennsylvania avenue
74	Wilson street	E. B. L. Eutaw Place
74	Wilson street	E. B. L. Park avenue
75	Covington street	Gittings street
76	Howard street	N. B. L. Baltimore street
76	Howard street	N. E. B. L. Richmond street
77	Morton street	N. B. L. Lafayette avenue
77	Oliver street	W. B. L. first alley west of Md. ave.
77	Trenton street	E. B. L. Maryland avenue
78	Calhoun street	N. C. L. Baltimore street
78	Franklin street	East side Fulton avenue
78	Harlem avenue	E. B. L. Pulaski street
78	Harlem avenue	E. B. L. Calhoun street
78	Lexington street	E. B. L. Payson street
78	Mulberry street	E. B. L. Fulton avenue
80	Charles street	N. B. L. Fort avenue
80	Fort avenue	W. B. L. Charles street
80	Hamburg street	E. B. L. Sharp street

TABLE C-3.—*Continued.*

PAVING COMMISSION DURING THE YEAR 1914.

To.	Material.	Remarks.
W. B. L. Warner street	Sheet asphalt	
W. B. L. Charles street	Sheet asphalt	
W. B. L. Riverside avenue	Sheet asphalt	
W. B. L. Charles street	Sheet asphalt	
W. B. L. Fremont avenue	Sheet asphalt	
W. B. L. Light street	Sheet asphalt	
W. B. L. Key Highway	Sheet asphalt	
S. B. L. Montgomery street	Sheet asphalt	
W. B. L. Charles street	Sheet asphalt	
W. B. L. Battery avenue	Sheet asphalt	
W. B. L. Fremont avenue	Sheet asphalt	
S. B. L. West street	Sheet asphalt	
S. B. L. Cross street	Sheet asphalt	
S. C. L. Warren avenue	Sheet asphalt	
S. B. L. Clement street	Sheet asphalt	
S. B. L. Columbia avenue	Sheet asphalt	
W. B. L. Light street	Sheet asphalt	
N. B. L. Gittings street	Sheet asphalt	
S. B. L. Warren avenue	Sheet asphalt	
S. B. L. North avenue	Sheet asphalt	
W. B. L. Eutaw Place	Sheet asphalt	
W. B. L. Charles street	Sheet asphalt	
W. B. L. Druid Hill avenue	Sheet asphalt	
W. B. L. Madison avenue	Sheet asphalt	
W. B. L. Bolton street	Sheet asphalt	
W. B. L. Madison avenue	Sheet asphalt	
E. B. L. Bolton street	Sheet asphalt	
W. B. L. John street	Sheet asphalt	
Cross street	No paving	Grading only.
S. B. L. Armory Place	Sheet asphalt	Granite block between outer rail
W. B. L. Park avenue	Sheet asphalt	Granite block between outer rail
S. B. L. Trenton street	Vitrified block	
W. B. L. Maryland avenue	Granite block	
W. B. L. Charles street	Vitrified block	
S. B. L. Edmondson avenue	Sheet asphalt	
W. B. L. Fremont avenue	Sheet asphalt	
W. B. L. Gilmor street	Sheet asphalt	
W. B. L. Fremont avenue	Sheet asphalt	Vitrified block between outer rail
W. B. L. Fulton avenue	Sheet asphalt	
W. B. L. Schroeder street	Sheet asphalt	
S. B. L. Hill street	Vitrified block	
W. B. L. Light street	Vitrified block	
W. B. L. Light street	Vitrified block	

TABLE C-3.—*Continued.*

STREETS ON WHICH WORK WAS DONE BY THE

Contract No.	Street.	From.
80	Leadenhall street	North side B. & O. R. R.
80	Ostend street	E. B. L. Sharp street
80	Patapsco street	N. B. L. West street
80	Race street	N. B. L. Cross street
81	Fremont avenue	W. C. L. Warner street
81	Paca street	E. B. L. Fremont avenue
81	Paca street	N. B. L. Fayette street
81	Warner street	South side Hamburg street
82	Bath street	E. B. L. Guilford avenue
82	Holliday street	N. B. L. Pleasant street
82	Pleasant street	E. B. L. Calvert street
82	Terminal street	E. B. L. Fallsway
83	German street	E. B. L. Paca street
83	South street	N. C. L. Pratt street
84	Aisquith street	N. C. L. Baltimore street
84	Park avenue	N. B. L. Lexington street
85	Charles street	South side Chase street
85	Eager street	E. B. L. Park avenue
85	Howard street	E. B. L. Park avenue
85	Park avenue	N. B. L. Richmond street
86	Brevard street	N. B. L. Dolphin street
86	Jenkins alley	N. B. L. Dolphin street
86	Mason alley	N. B. L. Dolphin street
86	Mason alley	N. B. L. Mosher street
86	Rutter street	N. B. L. Dolphin street
87	Baltimore street	W. B. L. Liberty street
88	Baltimore street	W. B. L. Fremont avenue
88	Baltimore street	E. C. L. Fremont avenue
88	Baltimore street	W. C. L. Arch street
89	Guilford avenue	N. B. L. Baltimore street
89	South street	N. B. L. Lombard street
90	Biddle street	E. B. L. Guilford avenue
90	Guilford avenue	N. B. L. Chase street
90	Preston street	E. B. L. Guilford avenue
91	Bowley street	N. B. L. Lombard street
91	Clay street	E. B. L. Eutaw street
91	Dark lane	E. B. L. Lovegrove alley
91	Lovegrove alley	S. B. L. Dark lane
91	Water street	E. B. L. Calvert street
92	Eutaw street	N. B. L. Baltimore street

TABLE C-3.—*Continued.*

PAVING COMMISSION DURING THE YEAR 1914.

To.	Material.	Remarks.
S. B. L. Ostend street	Granite block	
E. B. L. Leadenhall street	Vitrified block	
S. B. L. Hamburg street	Vitrified block	
W. B. L. Hanover street	Vitrified block	
S. B. L. Ridgely street	Granite block	
S. B. L. Pratt street	Vitrified block	
S. B. L. Franklin street	Vitrified block	
N. B. L. Hamburg street	Granite block	
W. B. L. Fallsway	Granite block	
S. B. L. Centre street	Granite block	
W. B. L. Holliday street	Granite block	
W. B. L. Constitution street	Granite block	
W. B. L. Eutaw street	Granite block	
N. B. L. Lombard street	Granite block	
S. B. L. Lexington street	Vitrified block	
S. B. L. Centre street	Vitrified block	
S. B. L. North avenue	Sheet asphalt	Vitrified block between outer rails.
W. B. L. Cathedral street	Sheet asphalt	
W. B. L. Cathedral street	Sheet asphalt	
S. B. L. Lanvale street	Sheet asphalt	Vitrified block between outer rails.
S. B. L. Lafayette avenue	Cement concrete	
S. B. L. Laurens street	Cement concrete	
S. B. L. Lafayette avenue	Cement concrete	
S. B. L. Laurens street	Cement concrete	
S. B. L. McMechen street	Cement concrete	
E. B. L. Market Place	Sheet asphalt	
E. C. L. Fremont avenue	Scoria block	
W. C. L. Arch street	Sheet asphalt	
W. B. L. Liberty street	Sheet asphalt	Scoria block between outer rails.
S. C. L. Fayette street	Wood block	Granite block between outer rails.
S. B. L. Baltimore street	Wood block	Granite block between outer rails.
West end Penna. R. R. Bridge	Sheet asphalt	
209.3′ north of N. B. L. Chase st.	Sheet asphalt	Vitrified block along and between outer rails.
West end W. Md. R. R. Bridge	Sheet asphalt	Vitrified block between outer rails.
S. B. L. Water street	Granite block	
W. B. L. Charles street	Granite block	Uncompleted.
W. B. L. Calvert street	Granite block	
S. B. L. Saratoga street	Granite block	
W. B. L. South street	Granite block	
104.4′ north of St. Marys street	Sheet asphalt	Granite block between outer rails (includes intersection at Eutaw street, Madison avenue, Madison street and Hamilton Terrace).

TABLE C-3.—*Continued.*

STREETS ON WHICH WORK WAS DONE BY THE

Contract No.	Street.	From.
93	Brexton alley	W. B. L. Park avenue
93	Division street	N. B. L. McMechen street
93	Eager street	E. B. L. Cathedral street
93	Hamilton street	E. B. L. Park avenue
93	Linden avenue	N. B. L. Monument street
93	Madison street	E. B. L. Eutaw street
93	Monument street	E. B. L. Eutaw street
93	Mosher street	E. B. L. Division street
93	Mulberry street	W. B. L. Schroeder street
93	Mulberry street	E. B. L. Pearl street
93	Mulberry street	W. C. L. Greene street
93	Tyson street	N. E. B. L. Richmond street
94	Centre street	N. W. B. L. Charles street
94	Centre street	W. B. L. St. Paul street
94	Courtland street	S. B. L. Franklin street
94	St. Paul street	N. C. L. Hamilton street
95	McElderry street	E. B. L. Linwood avenue
98	Centre street	E. B. L. Howard street
98	Saratoga street	E. B. L. Greene street
99	Caroline street	N. B. L. Thames street
100	Thames street	N. E. B. L. Philpot street
Group.		STREETS DONE BY CITY ENGINEER'S DEP
D	Saratoga street	Intersection of Holliday street
F	Barre street	West side Reese alley
G	Monument street	E. B. L. Fallsway

In addition to the above, the Paving Commission joined the City Engineer's Department

Allen alley, from Exeter street to Lloyd street.
Camden street, from Eutaw street to Howard street.
Hillen street, from Holliday street to Fallsway.
Holliday street, from Saratoga street to Hillen street.

TABLE C-3.—*Continued.*

PAVING COMMISSION DURING THE YEAR 1914.

To.	Material.	Remarks.
S. B. L. Howard street	Sheet asphalt	
S. B. L. North avenue	Sheet asphalt	Vitrified block between outer rails at Cumberland street.
W. B. L. Calvert street	Sheet asphalt	
W. B. L. St. Paul street	Sheet asphalt	
S. B. L. Madison street	Sheet asphalt	
W. B. L. Cathedral street	Sheet asphalt	
W. B. L. Howard street	Sheet asphalt	
W. B. L. McCulloh street	Sheet asphalt	
E. B. L. Pearl street	Sheet asphalt	Vitrified block between outer rails at cross streets.
W. C. L. Greene street	Vitrified block	
W. B. L. Howard street	Sheet asphalt	Vitrified block between outer rails at cross streets.
W. B. L. Cathedral street	Sheet asphalt	
W. B. L. St. Paul street	Vitrified block	
E. B. L. Courtland street	Granite block	
S. B. L. Centre street	Vitrified block	Uncompleted.
S. B. L. Centre street	Vitrified block	Uncompleted.
West side Loney's lane	Sheet asphalt	
N. W. B. L. Charles street	Sheet asphalt	Vitrified block between outer rails.
W. B. L. Howard street	Sheet asphalt	Vitrified block along and between outer rails (uncompleted).
S. B. L. Pratt street	Granite block	Uncompleted (no paving laid in 1914).
W. B. L. Broadway	Granite block	Uncompleted (no paving laid in 1914).
ARTMENT FOR THE PAVING COMMISSION.		
	Granite block	
W. B. L. Sharp street	Granite block	Work started December, 1913.
23.3′ east of E. B. L. Fallsway	Granite block	

by paying a portion of the cost of paving the following streets:

Holliday street, intersection of Pleasant street.
Necessity alley, from High street to Exeter street.
Riverside avenue, from Fort avenue to Hamburg street.
Saratoga street, from Liberty street to Charles street.

TOTAL AREAS OF

Kinds of Paving.	Years of 1912 and 1913.	
	Area Square Yards.	Miles Average Thirty Feet Wide.
Sheet asphalt paving	429,348.55	24.40
Bituminous concrete paving	78,888.59	4.48
Vitrified block paving	244,711.05	13.90
Vitrified block gutters	25,723.62	1.46
Granite block paving	148,707.77	8.45
Granite block liners		
Wood block paving	3,999.59	.23
Wood block liners	6,737.37	.38
Wood block transverse joints		
Scoria block paving		
Scoria block liners		
Cement concrete paving		
Totals of all paving	938,116.54	53.30

PAVING COMPLETED.

Year of 1914.		Totals to December 31, 1914.	
Area Square Yards.	Miles Average Thirty Feet Wide.	Area Square Yards.	Miles Average Thirty Feet Wide.
332,659.61	18.90	762,008.16	43.30
13,413.66	.76	92,302.25	5.24
102,771.94	5.84	347,482.99	19.74
29,003.85	1.65	54,727.47	3.11
71,461.94	4.06	220,169.71	12.51
1,199.37	.07	1,199.37	.07
1,647.42	.09	5,647.01	.32
1,140.58	.07	7,877.95	.45
138.84	.01	138.84	.01
4,830.72	.27	4,830.72	.27
4,156.56	.24	4,156.56	.24
9,695.78	.55	9,695.78	.55
572,120.27	32.51	1,510,236.81	85.81

EIGHTY-FIFTH ANNUAL REPORT

OF THE

Board of School Commissioners

TO THE

MAYOR AND CITY COUNCIL OF BALTIMORE

FOR THE

SCHOLASTIC YEAR ENDING JUNE 30

1914

BALTIMORE
MEYER & THALHEIMER
CITY PRINTER

1915

BOARD OF SCHOOL COMMISSIONERS.

NAME.	ADDRESS.	TERM EXP.
THOMAS McCOSKER, *President*	2112 E. Pratt St	1916
ALBERT T. CHAMBERS	1012 W. Lafayette Ave	1920
RICHARD J. BIGGS	1412 Harlem Ave	1920
JAMES M. DELEVETT	621 Columbia Ave	1918
SIDNEY P. THANHOUSER	311 W. Baltimore St	1916
ALBERT L. FANKHANEL	South and Water Sts	1920
CLARENCE DEEMS	Park Ave. and Wilson St	1918
HENRY JOESTING, Jr.	514 Chestnut Hill Ave	1916
ARTHUR B. BIBBINS	2600 Maryland Ave	1918

OFFICERS.

Francis A. Soper	Superintendent.
Charles J. Koch	First Assistant Superintendent.
Charles A. A. J. Miller	Second Assistant Superintendent.
Joseph C. Hands	Third Assistant Superintendent.
Robert W. Elliott	Fourth Assistant Superintendent.
Rowland Watts	Fifth Assistant Superintendent.
Andrew J. Pietsch	Sixth Assistant Superintendent.
John H. Roche	Secretary.
Frank N. Claridge	First Assistant Secretary.
Joshua R. Jolly	Second Assistant Secretary.
David D. Kennedy, Jr.	Clerk to Secretary.
Henry R. Davis	Supervisor of School Buildings.
Alice A. White	Clerk, Superintendent's Office.
Mary E. King	Clerk, Superintendent's Office.
Sara C. Tunis	Clerk, Superintendent's Office.
Lois C. Smith	Clerk, Superintendent's Office.
Miriam Graham	Clerk, Attendance Department.

REPORT OF THE

PRESIDENT OF THE BOARD OF SCHOOL COMMISSIONERS.

OFFICE OF THE BOARD OF SCHOOL COMMISSIONERS,

BALTIMORE, June 30, 1914.

HON. JAMES H. PRESTON,
Mayor of the City of Baltimore.

SIR—The Board of School Commissioners respectfully submits the Eighty-fifth Annual Report, showing the condition of the public schools of the City of Baltimore during the scholastic year ending June 30, 1914.

SCHOOLHOUSE ACCOMMODATIONS.

The question of schoolhouse accommodations, which has engaged the attention of the Board of School Commissioners for a number of years, is gradually approaching adjustment. Baltimore has, from the beginning of her public school system, pursued a broad and liberal policy in providing for the comfort and education of the children attending her public schools.

The record shows that she has endeavored to keep up with the improvements made in school buildings and equipments, and, therefore, the revolution in school architecture which took place about twenty years ago did not find her totally unprepared. The new style of architecture was favorably received and generally applied when new buildings were needed, but we had many schools in the service, good and substantial, containing the elements of safety, health and comfort, and these could not be abandoned merely for the sake of innovation.

There were others, however, that were antiquated, deficient in drainage, light, and ventilation, and action was taken to displace them as speedily as practicable. In order to make this possible, the Mayor and City Council, with the consent of the Legislature, kindly provided for two loans aggregating two and a half millions of dollars to be used where, in the judgment of the School Board, it was most needed; but there are a number of buildings still in the service which are unfit for school purposes, and should be replaced by modern school structures.

It is estimated that this can be done by an additional expenditure of one and a half million dollars, and we respectfully urge that this sum be appropriated for the purpose.

School Supervision.

The new method of supervision which has taken the place of the group principal system appears to give satisfaction and is producing good results.

Teachers' Training School.

As our public school authorities must continue to rely solely upon their own efforts in the training of teachers for the elementary schools, and, as a means to success in this direction, it is necessary to increase and strengthen the facilities now available for that purpose.

In January, 1901, the Board of School Commissioners established our present Training School and it has been continued up to the present, undergoing changes and encountering difficulties.

Its present location is undesirable, its accommodations inadequate, and its facilities limited. It has done good work under unfavorable conditions and would meet all our requirements if desirably located and properly equipped.

The Board respectfully recommends that the proper city authorities be urged to take the necessary steps to acquire

the State Normal School property at Carrollton and Lafayette avenues. This building, with a suitable equipment, would enable the school to do this important work.

Baltimore Polytechnic Institute.

The handsome new building erected on North avenue for the use of the Baltimore Polytechnic Institute was completed and occupied during the early part of this school year.

This is one of the best equipped schools of its kind and will enable the institution to maintain the high reputation whch it has so creditably won.

Elementary School Buildings.

The new 16-classroom building erected to take the place of old School No. 6 was completed and occupied September 15.

New School No. 27, a 24-classroom building, was occupied the same day.

New School No. 22, a 24-classroom building, was completed and occupied in October.

These buildings are first class in every respect, containing all that is necessary for the safety, health and comfort of teachers and pupils.

The formal openings of these buildings were attended by large audiences and appropriate ceremonies which gave evidence of the interest our people are taking in their schools.

A new three-story building containing ten classrooms of standard size, together with an assembly hall, has been added to School No. 99, furnishing accommodation for five hundred pupils.

Parental School.

In order to meet the needs of our Parental School, a tract of land known as the Healy property, located on Maiden Choice lane, Catonsville, was purchased for that purpose. The property had upon it a dwelling large enough to house

the pupils, but without schoolroom accommodations. Drawings are now being made for the necessary classroom building.

School Attendance.

There has been a marked increase in school attendance during the year. The enrollment in the day schools amounted to 85,555, an increase of 3,188 over the preceding year. The attendance at the night schools was 5,234, an increase of 532 over the preceding year. The course of public evening lectures inaugurated in 1912 has been continued with great success.

Crippled Children.

In April, 1913, the Board authorized the opening of a special class for crippled children, which has been quite successful, and provision has been made for the opening of an additional class at School No. 20 and one at School No. 22.

Wider Use of School Plant.

The Board of School Commissioners has in preparation plans for the wider use of the school plant; the said plans contemplating the opening of certain of the modern school buildings in the several sections of the city for public lectures, entertainments, and neighborhood gatherings. For several years the Board has granted the use of the schools for meetings of business and civic organizations, as well as for the activities of educational societies and of the Children's Playground Association and the Public Athletic League.

School Buildings Occupied.

Schoolhouses owned by the city	108
Dwellings owned by the city	3
Portable frame buildings owned by the city	33
Buildings or parts of buildings rented by the city	17
Total number of buildings occupied	161

New Buildings Now Under Construction.

School No. 83, Lakewood avenue and Orleans street—Three-story addition, eighteen classrooms, assembly hall, two unassigned rooms, and shower baths, etc.

Rented Buildings Vacated.

2214 Fairmount avenue—Rented for use of School No. 27.

Southwest corner Pennsylvania avenue and Dolphin street—Rented for use of Colored High School.

Buildings Rented in 1913.

For School No. 112—2018, 2020, and 2022 Pennsylvania avenue.

For Colored High School—1117 Pennsylvania avenue.

Portable School Buildings.

Two removed from School No. 99 and placed at School No. 68.

One removed from the Parental School and placed at School No. 65.

Four removed from School No. 83 and placed at School No. 47, for the use of School No. 24.

Additional Improvements Authorized.

School No. 111—Lot and building.
School No. 93—Addition.
School No. 50—Lot and building.
School No. 2—Lot.
School No. 6—Lot.
School No. 106—Lot.
School No. 27—Lot.
School No. 76—Lot.
For school in West Arlington.

STATISTICS FOR THE SCHOLASTIC YEAR ENDING JUNE 30, 1914.

Day Schools.

SCHOLASTIC YEAR 1913-14.	Normal.	Secondary.	Elementary.	All Day Schools.
Total number of different pupils enrolled	213	5,355	72,005	77,573
Average number belonging	175	4,451	62,061	66,607
Average attendance	168	4,226	55,802	60,196

Night Schools.

Total enrollment for scholastic year 1913-14	9,011
Average net roll or register	4,314
Average attendance	3,109
Number belonging at end of term	3,292

Summer Vacation Schools.

Total enrollment for scholastic year (summer of 1914)	2,043
Average net roll or register	1,761
Average attendance	1,589
Number belonging at end of term	1,630

Number of normal schools	2	
Number of secondary schools	5	
Number of elementary schools	104	
Total day schools		111
Number of night schools		28
Number of summer schools		9
Total number of schools of all kinds		148

Number of teachers, including principals:

In normal schools		10
In secondary schools		205
In elementary schools		1,642
Number of superintendents	1	
Number of assistant superintendents	6	

Supervisors and special teachers:

Practice	4	
Music	3	
Drawing	9	
Sewing	35	
Domestic science	21	
Manual training	22	
Physical training	3	
		104
Total		1,961
Number of teachers in night schools		147
Number of teachers in summer schools		52

School Attendance Department.

Number of cases investigated	44,811
Number of absentees	33,078
Number of truants	3,224
Number of non-attendants put into school	211
Number of special cases	2,932
Number of visits to homes	43,270
Number of visits to schools	7,450
Number refused permits to work	1,601
Number of magistrate cases	330
Number of prosecutions before Juvenile Court	96
Number committed to Parental School	43

Financial Statement.

Amount to credit, July 1, 1913		$787,086 51
Appropriated by the Mayor and City Council for the expenses of the schools for the fiscal year 1914		1,968,888 00
Received from the State for free text-books		52,373 07
Received from exchange and sale of old books		164 40
Received from the State for State High School Fund		10,000 00
Received from intestate estates		452 64
Received from the sale of old paper		87 96
Received from refunds		147 72
		$2,819,200 30
Unexpended, December 31, 1913, paid into General Fund, city treasury	$407 30	
Expended to June 30, 1914	2,003,090 41	
		2,003,497 71
Unexpended, carried forward to 1914-15		$815,702 59

Respectfully submitted,

Thomas McCosker,
President Board of School Commissioners.

SECRETARY'S STATEMENT

OF THE

ACCOUNTS OF THE PUBLIC SCHOOLS FROM JULY 1, 1913, TO JUNE 30, 1914.

(SCHOLASTIC YEAR 1913-1914.)

Amount to credit, July 1, 1913	$787,086 51	
Appropriated by the Mayor and City Council for the expenses of the schools for the fiscal year 1914	1,968,888 00	
Received from the State for free text-books	52,373 07	
Received from exchange and sale of old books	164 40	
Received from the State for State High School Fund	10,000 00	
Received from intestate estates	452 64	
Received from sale of old paper	87 96	
Received from refunds	147 72	
		$2,819,200 30
Unexpended December 31, 1913, paid into General Fund, city treasury	$407 30	
Expended to June 30, 1914	2,003,090 41	
		2,003,497 71
Unexpended, carried forward to 1914-15		$815,702 59

Itemized as follows:

OFFICE SALARIES.

Amount to credit, July 1, 1913	$4,600 00	
Appropriated for fiscal year 1914	9,200 00	
		$13,800 00
Expended to June 30, 1914		9,200 00
Unexpended, carried forward to 1914-15		$4,600 00

Office Expenses.

Amount to credit, July 1, 1913	$908 68	
Appropriated for fiscal year 1914	4,200 00	
		$5,108 68
Expended to June 30, 1914		2,154 41
Unexpended, carried forward to 1914-15		$2,954 27

Day School Salaries.

Amount to credit, July 1, 1913	$570,754 05	
Appropriated for fiscal year 1914	1,727,383 00	
Refund	104 05	
		$2,298,241 10
Unexpended December 31, 1913, paid into General Fund, city treasury	$401 60	
Expended to June 30, 1914	1,669,720 97	
		1,670,122 57
Unexpended, carried forward to 1914-15		$628,118 53

Day School Expenses.

Amount to credit, July 1, 1913	$97,386 44	
Appropriated for fiscal year 1914	168,450 00	
Received from the sale of old paper	87 96	
Refund	15 00	
		$265,939 40
Expended to June 30, 1914		172,627 09
Unexpended, carried forward to 1914-15		$93,312 31

Night School Salaries.

Amount to credit, July 1, 1913	$10,969 80	
Appropriated for fiscal year 1914	22,755 00	
		$33,724 80
Unexpended December 31, 1913, paid into General Fund, city treasury	$5 70	
Expended to June 30, 1914	22,891 85	
		22,897 55
Unexpended, carried forward to 1914-15		$10,827 25

Night School Expenses.

Amount to credit, July 1, 1913	$2,015 06	
Appropriated for fiscal year 1914	4,500 00	
		$6,515 06
Expended to June 30, 1914		4,027 26
Unexpended, carried forward to 1914-15		$2,487 80

Free Text-Books.

Amount to credit, July 1, 1913	$36,591 61	
Received from the State from July 1, 1913, to June 30, 1914	52,373 07	
Amount received from sale and exchange of old books, July 1, 1913, to June 30, 1914	164 40	
		$89,129 08
Expended to June 30, 1914		55,642 51
Unexpended, carried forward to 1914-15		$33,486 57

State High School Fund.

Amount to credit, July 1, 1913	$6,809 72	
Received from the State from July 1, 1913, to June 30, 1914	10,000 00	
		$16,809 72
Expended to June 30, 1914		9,309 72
Unexpended, carried forward to 1914-15		$7,500 00

Intestate Estates.

Amount to credit July 1, 1913	$10,868 75	
Received from intestate estates from July 1, 1913, to June 30, 1914	452 64	
		$11,321 39
Expended to June 30, 1914		2,222 62
Unexpended, carried forward to 1914-15		$9,098 77

Equipping New Buildings.

Amount to credit, July 1, 1913	$36,598 14	
Appropriated for fiscal year 1914	6,500 00	
		$43,098 14
Expended to June 30, 1914		39,396 66
Unexpended, carried forward to 1914-15		$3,701 48

Parental School.

Amount to credit, July 1, 1913	$3,429 44	
Appropriated for the fiscal year 1914	8,000 00	
Refund	28 67	
		$11,458 11
Expended to June 30, 1914		7,422 59
Unexpended, carried forward to 1914-15		$4,035 52

Summer Schools.

Amount to credit, July 1, 1913	$5,897 50	
Appropriated for the fiscal year 1914	8,000 00	
		$13,897 50
Expended to June 30, 1914		5,897 50
Unexpended, carried forward to 1914-15		$8,000 00

Evening Lectures.

Appropriated for the fiscal year 1914	$500 00
Expended to June 30, 1914	395 63
Unexpended, carried forward to 1914-15	$104 37

Drinking Fountains.

Amount to credit	$257 32
Expended to June 30, 1914	212 75
Unexpended, carried forward to 1914-15	$44 57

Supply Warehouse.

Amount appropriated for fiscal year 1914	$4,400 00
Expended to June 30, 1914	1,968 85
Unexpended, carried forward to 1914-15	$2,431 15

Emergency Fund.

Amount appropriated for fiscal year 1914	$5,000 00
Expended to June 30, 1914	
Unexpended, carried forward to 1914-15	$5,000 00

Per Capita Cost.

The per capita cost, as here given, is based on the current expenditure and average net roll of pupils for the year:

For all the day schools	$27 46
For all the day secondary schools	74 49
For all the day elementary schools	24 19
For all the night schools	8 52
For Baltimore City College	89 92
For Eastern High School	66 45
For Western High School	56 29
For Baltimore Polytechnic Institute	92 35
For Colored High School	68 58

Respectfully submitted,

John H. Roche,

Secretary.

TABLE No. 1.

General survey of all day schools, showing: Number of buildings and number of superintendents, supervisors, teachers, and pupils by race, sex, and grade of schools; also grand totals.

WHITE SCHOOLS.

GRADE OF SCHOOL.	Number of schools, June 30, 1914.	Number of teachers, including principals and substitutes in charge of classes.			Number of pupils belonging, June 30, 1914.	Average number belonging for scholastic year.	Average attendance for the year.	Per cent of attendance.	Total net enrollment of pupils for the scholastic year, 1913-1914.			Net roll, June 30, 1914 (includes number belonging and temporarily dropped absentees).
		Men.	Women.	Totals.					Boys.	Girls.	Totals.	
Normal school—												
Teachers' Training School	1	* 1	5	6	142	151	146	97	9	173	182	142
Secondary schools—												
Baltimore City College	1	*35	.....	35	774	827	765	93	956	.....	956	815
Baltimore Polytechnic Institute	1	*56	.....	56	1,055	1,044	1,015	97	1,324	.....	1,324	1,094
Eastern High School	1	* 2	35	37	782	816	764	94	.....	936	936	817
Western High School	1	* 1	46	47	1,131	1,206	1,152	96	.....	1,424	1,424	1,203
Totals	4	94	81	175	3,742	3,893	3,696	95	2,280	2,360	4,640	3,929
Elementary schools—												
Grades one to eight	88	47	1,290	1,337	50,254	51,899	47,245	91	29,717	29,068	58,785	53,046
Kindergartens	.....	.....	40	40	774	740	631	86	574	542	1,116	895
Ungraded classes	.....	.....	28	28	387	402	345	87	564	146	710	451
Parental school	1	* 1	2	3	39	32	32	100	52	.....	52	40
Totals	89	48	1,360	1,408	51,454	53,073	48,253	91	30,907	29,756	60,663	54,432
All white schools—												
Totals	94	143	1,446	1,589	55,338	57,117	52,095	91	33,196	32,289	65,485	58,503

Colored Schools.

Normal school—												
Colored Training School	1	* 1	3	4	23	24	22	92	1	30	31	24
Secondary school—												
Colored High School	1	*15	15	30	531	558	530	95	224	491	715	619
Elementary schools—												
Grades one to eight	15	43	182	225	8,256	8,801	7,410	84	4,966	6,020	10,986	9,643
Kindergartens	.....	.....	7	7	165	155	116	75	144	157	301	203
Ungraded classes	.....	.....	2	2	26	32	23	72	36	19	55	33
Totals	15	43	191	234	8,447	8,988	7,549	84	5,146	6,196	11,342	9,879
All colored schools—												
Totals	17	59	209	268	9,001	9,570	8,101	85	5,371	6,717	12,088	10,522

Summary for All Day Schools.

Normal schools	2	2	8	10	165	175	168	96	10	203	213	166
Secondary schools	5	109	96	205	4,273	4,451	4,226	95	2,504	2,851	5,355	4,548
Elementary schools	104	91	1,551	1,642	59,901	62,061	55,802	90	36,053	35,952	72,005	64,311
Superintendents, supervisors and special teachers—												
Superintendent	.....	1	.....	1	.....	.....	.....	.....	.....	.....	.....	.....
Assistant superintendents	.....	6	.....	6	.....	.....	.....	.....	.....	.....	.....	.....
Supervisors—												
Principals of schools	.....	*(51)	*(45)	.....	.....	.....	.....	.....	.....	.....	.....	.....
Practice	.....	.....	4	4	.....	.....	.....	.....	.....	.....	.....	.....
Music	.....	.....	3	3	.....	.....	.....	.....	.....	.....	.....	.....
Drawing	.....	.....	1	1	.....	.....	.....	.....	.....	.....	.....	.....
Sewing	.....	.....	1	1	.....	.....	.....	.....	.....	.....	.....	.....
Physical training	.....	1	.....	1	.....	.....	.....	.....	.....	.....	.....	.....
Manual training	.....	*(1)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Special teachers—												
Drawing	.....	.....	8	8	.....	.....	.....	.....	.....	.....	.....	.....
Sewing	.....	.....	34	34	.....	.....	.....	.....	.....	.....	.....	.....
Physical training	.....	.....	2	2	.....	.....	.....	.....	.....	.....	.....	.....
Manual training	.....	16	5	21	.....	.....	.....	.....	.....	.....	.....	.....
Cookery	.....	.....	21	21	.....	.....	.....	.....	.....	.....	.....	.....
Grand totals	111	226	1,734	1,960	64,339	66,687	60,196	91	38,567	39,006	77,573	69,025

*Principals giving more than half their time to supervision and administration counted in the faculties of their respective schools; supervisor of manual training counted in the faculty of Polytechnic Institute.

TABLE No. 2.

Grades of Schools Compared.

Net roll of June 30, 1914, compared with net roll of June 30, 1913, showing increase and decrease.

White Schools.

Grade of School.	Year 1913-14.	Year 1912-13.	+Increase. —Decrease.
Normal school—			
Teachers' Training School...	142	122	+ 20
Secondary schools—			
Baltimore City College (boys).	815	799	+ 16
Polytechnic Institute (boys)..	1,094	1,006	+ 88
Eastern High School (girls).	817	830	— 13
Western High School (girls).	1,203	1,235	— 32
Totals.....	3,929	3,870	+ 59
Elementary schools—			
Grades 1 to 8, inclusive.....	53,046	50,975	+2,071
Kindergartens	895	955	— 60
Ungraded classes	451	401	+ 50
Parental school	(*40)	(*31)	(*+9)
Totals.....	54,392	52,331	+2,061
All white schools—			
Totals.....	58,463	56,323	+2,140

*Included in totals for grades.

TABLE No. 3.

General Survey of all Night Schools, Showing Schools, Enrollment, Withdrawals, Net Roll, Attendance, and Per Cent of Efficiency During the Term of 1913-1914.

Schools.	Gross enrollment.			Probationers dropping out before earning place on permanent roll.			Net enrollment during term.			Withdrawals during term.			Net roll at close of term.			Net roll during term.		Attendance during term.		Per cent of attendance.	Number of nights in session.	Avg. number of teachers during term (totals).	Units of work undertaken, accomplished, and per cent of efficiency.		
	Male.	Female.	Totals.	Male.	Female.	Totals.	Male.	Female.	Totals.	Male.	Female.	Totals.	Male.	Female.	Totals.	Aggregate.	Average.	Aggregate.	Average.				Units taken.	Units done.	Per cent of efficiency.
White.																									
Secondary:																									
Baltimore City College—Commercial	934	615	1,549	201	102	303	673	513	1,186	434	299	733	239	214	453	43,991	647	30,566	450	70	68	22	3,230	1,007	31.1
Baltimore City College—Technical	132	1	133	03		03	69	1	70	25		25	44	1	45	4,104	60	2,050	43	72	68	4	70	30	42.9
Evening High	652	70	722	90	19	109	562	51	613	357	31	388	205	20	225	24,105	351	16,925	245	70	69	11	640	222	34.7
Totals	1,718	686	2,404	414	121	535	1,304	565	1,869	816	330	1,146	488	235	723	72,200	1,058	50,435	738	70		37	3,946	1,259	31.9
Elementary:																									
No. 1	460	148	608	72	20	92	388	128	516	225	82	307	163	46	209	18,023	282	13,942	208	73	67	10	695	338	48.6
No. 30	123	62	185	40	12	52	83	50	133	49	23	72	34	27	61	4,935	82	3,267	54	66	60	3	465	169	36.3
No. 40	788	483	1,271	137	101	238	651	382	1,033	418	220	638	233	162	395	39,810	603	26,724	405	67	66	18	1,463	970	66.3
No. 42	726	360	1,086	175	85	260	551	275	826	294	141	435	266	125	391	36,739	557	27,163	412	74	66	17	3,302	1,911	57.9
No. 70	117	56	173	16	13	29	101	43	144	21	13	34	80	30	110	8,981	134	7,270	109	81	67	5	471	253	53.7
No. 76	36	34	70	15		15	21	34	55	13	13	26	8	21	29	814	31	527	20	64	26	2	73	33	45.2
No. 81	52		52	6		6	46		46	25		25	21		21	1,051	23	797	18	76	45	1	82	32	39.0
No. 83	136	37	173	37	8	45	99	29	128	73	21	94	26	8	34	3,985	60	2,803	42	70	66	3	270	83	30.7
No. 94	174	99	273	34	17	51	140	82	222	93	58	151	47	24	71	7,202	110	4,547	69	63	66	4	341	135	39.6
Totals	2,612	1,279	3,891	532	256	788	2,080	1,023	3,103	1,211	571	1,782	878	443	1,321	122,500	1,682	87,040	1,337	71		63	7,162	3,924	54.8
Cookery:																									
No. 7		49	49					49	49		9	9		40	40	923	40	797	35	86	23	1	49	41	83.6
No. 27		68	68		15	15		53	53		14	14		39	39	901	44	711	32	74	22	1	53	39	73.6
No. 45		57	57		1	1		56	56		13	13		43	43	1,045	45	904	39	87	23	1	56	45	80.3
No. 47		54	54		12	12		42	42		27	27		15	15	400	18	312	14	78	22	1	42	15	35 7
No. 70		53	53					53	53		14	14		39	39	978	43	750	33	77	22½	1	53	30	56.6
No. 74		75	75		11	11		64	64		21	21		43	43	1,137	45	670	27	59	25	1	64	23	35.9
No. 75		50	50					50	50		10	10		40	40	964	42	711	31	74	23	1	50	37	74.0
No. 76		56	56					56	56		32	32		24	24	738	41	541	30	73	18	1	50	24	42.9
No. 81		45	45		1	1		44	44		2	2		42	42	735	39	430	23	59	18½	1	44	30	68.2
No. 85		49	49					49	49		11	11		38	38	1,005	43	724	31	72	23	1	49	20	40.8
No. 98		74	74		16	16		58	58		26	26		32	32	904	20	667	15	74	22	1	58	20	34.5
Totals		630	630		56	56		574	574		179	179		395	395	9,700	420	7,217	310	74		11	574	324	56.4
Totals for white schools	4,330	2,595	6,925	946	433	1,379	3,384	2,162	5,546	2,027	1,080	3,107	1,366	1,073	2,439	204,580	3,160	144,692	2,385	71		111	11,682	5,507	47.2
Colored																									
Elementary:																									
Colored High School	399	717	1,116	81	102	183	318	615	933	200	350	550	118	265	383	40,197	501	24,425	359	61	68	17	2,015	759	37.7
No. 101	84	113	197	7	7	14	77	106	183	37	32	69	41	73	114	8,857	134	6,473	98	73	66	5	477	331	69.4
No. 106	117	125	242	1	2	3	116	123	239	61	99	160	55	24	79	8,466	128	6,051	92	72	66	5	658	228	34.6
No. 112	137	138	275	16	17	33	121	121	242	61	49	110	66	72	132	10,379	150	6,259	91	60	69	4	484	214	44.2
No. 113	118	138	256	27	19	46	91	119	210	25	40	65	66	79	145	9,959	151	5,548	84	56	66	5	481	187	38.9
Totals for colored schools	855	1,231	2,086	132	147	279	723	1,084	1,807	384	570	954	340	513	853	77,852	1,154	48,756	724	63		36	4,115	1,719	41.8
Grand totals	5,185	3,826	9,011	1,078	580	1,658	4,107	3,246	7,353	2,411	1,650	4,061	1,706	1,586	3,292	282,432	4,314	193,448	3,109	69		147	15,797	7,226	45.7

Colored Schools.

Grade of School.	Year 1913-14.	Year 1912-13.	+Increase. —Decrease.
Normal school—			
Colored Training School.....	24	48	— 24
Secondary school—			
Colored High School.....	619	592	+ 27
Elementary schools—			
Grades 1 to 8, inclusive.....	9,643	9,377	+ 266
Kindergartens	203	123	+ 80
Ungraded classes	33	12	+ 21
Totals.....	9,879	9,512	+ 367
All colored schools—			
Totals.....	10,522	10,152	+ 370

Summary for All Day Schools.

Normal schools	166	170	— 4
Secondary schools	4,548	4,462	+ 86
Elementary schools	64,271	61,843	+2,428
Grand totals.....	68,985	66,475	+2,510

TABLE No. 4.

REPORT OF SUMMER SCHOOLS—SESSION OF 1914.

SUMMER SCHOOLS.	Total enrollment during term.			Net roll at end of term.			Average daily net roll.	Average daily attendance.	Per cent of attendance.	Number of teachers.		Work done. Number of subjects to be made up by pupils.				Number of pupils making up required subjects.				Per cent gaining promotion.
	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.				Male.	Female.	One.	Two.	Three.	Total pupils.	One.	Two.	Three.	Total pupils	
Review schools:																				
White—																				
Baltimore City College.	232	....	232	209	....	209	211	195	.92	7	....	142	76	14	232	114	49	8	171	.74
Eastern High School..	....	114	114	....	97	97	104	98	.94	1	3	73	40	1	114	53	17	1	71	.62
Western High School..	....	159	159	....	146	146	151	149	.99	....	4	47	111	1	159	54	72	1	127	.79
School No. 1.....	123	105	228	87	79	166	188	168	.88	2	3	39	128	61	228	29	94	50	173	.75
School No. 75.....	119	97	216	92	85	177	196	181	.92	1	4	42	135	39	216	37	98	28	163	.75
School No. 93.....	146	164	310	127	145	272	293	273	.93	2	5	107	157	46	310	78	108	27	213	.69
Totals.....	620	639	1259	515	552	1067	1143	1064	.93	13	19	450	647	162	1259	365	438	115	918	.73
Colored—																				
Colored High School..	18	99	117	10	76	86	94	80	.85	3	1	51	56	7	114	43	29	5	77	.67
School No. 103.....	70	139	209	54	100	154	177	150	.85	4	....	60	108	41	209	34	52	23	109	.52
School No. 105.....	68	107	175	50	77	127	137	114	.83	4	....	20	147	8	175	13	65	2	80	.46
Totals.....	156	345	501	114	253	367	408	344	.84	11	1	131	311	56	498	90	146	30	266	.53
												Sewing.	Millinery.	Cooking.	Drawing.	Printing.	Carpentry.	Sheet metal work.		
Vocational school—																				
School No. 9.....	172	111	283	121	75	196	210	181	.86	5	3	50	31	30	41	46	45	40		
Totals all summer schools...	948	1095	2043	750	880	1630	1761	1589	.90	29	23									

TABLE No. 5.

TOTAL NET ENROLLMENT IN SCHOOLS OF EVERY KIND, 1913-14—GRAND SUMMARY.

SCHOOLS.	White schools.			Colored schools.			All schools.		
	Males.	Females.	Totals.	Males.	Females.	Totals.	Males.	Females.	Totals.
Day schools	33,196	32,289	65,485	5,371	6,717	12,088	38,567	39,006	77,573
Night schools	4,330	2,595	6,925	855	1,231	2,086	5,185	3,826	9,011
Summer vacation schools	792	750	1,542	156	345	501	948	1,095	2,043
	38,318	35,634	.....	6,382	8,293	.....	44,700	43,927	.....
Totals	.....	.....	73,952	.....	.....	14,675	.....	.....	88,627

TABLE No. 6.

Showing the number of pupils and teachers in the public schools at the time of making the report each year, from the year 1829, when the first public school was opened, to the year 1914, inclusive. This statement does not include night schools or summer schools.

Date.	Teachers.	Pupils.	Date.	Teachers.	Pupils.
1829	3	269	1872	581	25,092
1830	5	402	1873	558	26,663
1831	5	627	1874	626	27,634
1832	5	640	1875	672	29,942
1833	5	544	1876	717	31,071
1834	8	859	1877	734	32,523
1835	8	747	1878	784	34,002
1836	8	814	1879	798	35,595
1837	8	659	1880	799	35,297
1838	8	675	1881	824	35,630
1839	16	1,126	1882	826	35,639
1840	22	1,834	1883	855	37,546
1841	27	2,331	1884	893	38,618
1842	28	2,464	1885	930	39,828
1843	30	2,669	1886	972	39,779
1844	38	3,366	1887	994	41,199
1845	52	4,313	1888	1,119	46,521
1846	65	5,087	1889	1,187	48,850
1847	90	6,439	1890	1,244	50,899
1848	100	6,696	1891	1,301	52,543
1849	110	6,763	1892	1,382	54,406
1850	119	7,093	1893	1,464	57,048
1851	138	8,011	1894	1,557	59,808
1852	175	9,081	1895	1,614	61,271
1853	186	9,447	1896	1,719	63,087
1854	207	9,717	1897	1,794	64,602
1855	217	10,588	1898	1,827	65,170
1856	238	11,441	1899	1,802	65,289
1857	245	11,269	1900	1,676	64,720
1858	256	11,587	1901	1,647	64,918
1859	267	11,750	1902	1,679	66,399
1860	284	13,186	1903	1,689	67,368
1861	295	13,424	1904	1,692	68,093
1862	311	13,888	1905	1,635	67,964
1863	333	14,874	1906	1,657	69,446
1864	343	15,319	1907	1,686	68,723
1865	366	15,957	1908	1,684	68,926
1866	402	17,550	1909	1,682	68,120
1867	490	22,073	1910	1,723	67,508
1868	537	21,903	*1911	1,696	62,652
1869	540	23,552	1912	1,739	63,323
1870	549	23,898	1913	1,890	66,506
1871	559	24,479	1914	1,960	69,025

*Six months only, January to June. Prior to 1911, annual reports covered the calendar year; subsequent to 1911, they covered the scholastic year, September to June, inclusive.

TABLE No. 7.

PREPARATORY CLASSES.

PREPARATORY CLASSES.	Number of classes.	Number of teachers.	Average number of pupils belonging.
School No. 1.....	8	8	192
School No. 49.....	12	12	320
School No. 52.....	5	5	135
Totals.....	25	25	647

TABLE No. 8.

Manual Training Centers.

Located at School.	Schools accommodated.	Grades and number of pupils.								
		First.	Second.	Third.	Fourth.	Fifth.	Sixth.	Seventh.	Eighth.	Totals.
No. 2	2, 42, 93	.....	.....	.....	.....	.....	59	99	40	198
No. 7	40, 43, 71	.....	.....	.....	.....	.....	126	67	53	246
No. 9	1, 9, 75, 95	.....	.....	.....	.....	.....	41	156	108	305
No. 22	72	.....	.....	.....	.....	.....	.....	72	17	89
No. 27	6, 13, 27, 71, 77, 83	.....	.....	.....	.....	.....	99	79	36	214
No. 45	20, 45	.....	.....	.....	.....	.....	35	38	30	103
No. 47	47, 83	.....	.....	.....	.....	.....	135	58	55	248
No. 51	51	.....	.....	.....	.....	.....	52	42	37	131
No. 58	55, 57, 58	.....	.....	.....	.....	47	73	27	43	190
No. 59	59	.....	.....	.....	.....	.....	21	9	8	38
No. 60	60, 62	.....	.....	.....	.....	.....	.....	83	34	117
No. 63	62, 63, 65	.....	.....	.....	.....	.....	54	50	57	161
No. 64	64	.....	.....	.....	.....	.....	42	39	21	102
No. 70	70, 84, 92	.....	.....	.....	.....	.....	80	95	67	242
No. 74	52, 54, 74, 80	.....	.....	.....	.....	.....	.....	198	65	263
No. 76	76	.....	108	.....	43	31	12	12	.....	206
No. 79	14, 49, 61, 79	.....	.....	.....	.....	.....	.....	149	99	248
No. 81	11, 21, 39, 61, 81	.....	.....	.....	.....	.....	.....	102	42	144
No. 86	86	.....	.....	.....	.....	.....	48	55	55	158
No. 98	48, 66, 68, 98	.....	.....	.....	.....	.....	41	143	67	251
No. 99	80, 85, 94, 99	.....	.....	.....	.....	.....	81	101	73	255
No. 106	106, 109	49	49	83	108	38	58	23	13	421
No. 107	100, 103, 107, 110, 116	.....	.....	47	64	56	31	13	14	225
No. 108	101, 105, 108, 111	.....	.....	.....	38	107	54	15	18	232
No. 113	113, 115	.....	.....	15	25	43	26	27	19	155
Colored High	103, 112, 116, 118	.....	.....	.....	.....	.....	65	62	50	177

TABLE No. 9.

Cookery Centers.

Located at School.	Schools accommodated.	Grades and number of pupils.								Totals.
		First.	Second.	Third.	Fourth.	Fifth.	Sixth.	Seventh.	Eighth.	
No. 2	2, 42, 93						120	133	45	298
No. 7	40, 43, 71						158	48	62	268
No. 22	72						67	46	31	144
No. 27	13, 27, 71, 77, 83						107	118	43	268
No. 45	20, 32, 45						24	26	21	71
No. 47	47, 83					101	185	63	31	380
No. 51	50, 51						72	44	25	141
No. 58	55, 57, 58					69	88	38	37	232
No. 59	59						13	14	11	38
No. 60	60, 62						21	77	27	125
No. 63	62, 63, 65						46	56	59	161
No. 64	64						47	35	21	103
No. 67	66						33	17	22	72
No. 70	70, 84, 92						144	116	.....	260
No. 74	52, 53, 54, 74, 80						56	179	25	260
No. 75	1, 75, 95						84	140	.....	224
No. 76	76				52	74	18	18	.....	162
No. 79	14, 49, 61, 79						.....	124	26	150
No. 81	11, 21, 39, 61, 81						.....	116	40	156
No. 85	85, 94, 99						117	125	22	264
No. 86	78, 86						27	100	50	177
No. 98	30, 48, 68, 98						107	69	64	240
No. 106	106, 109				64	135	68	11	35	313
No. 107	103, 116, 118						59	113	95	267
No. 108	101, 105, 108					95	75	42	49	261
No. 113	113, 115				38	52	18	22	19	149

TABLE No. 10.

KINDERGARTENS.

KINDERGARTENS.	Number of classes.	Number of teachers.	Number of assistants.	Number of pupils belonging June 30, 1914.	Average number belonging for the year 1913-1914.	Average attendance for the year 1913-1914.	Per cent of attendance for year 1913-1914.	Total enrollment for the year 1913-1914.			Number belonging, including temporary withdrawals, June 30, 1914.
								Boys.	Girls.	Totals.	
White Schools—											
No. 2	1	1	1	31	38	32	84	28	36	64	40
No. 3	1	1	1	40	40	35	88	31	32	63	48
No. 4	1	1	1	45	43	39	91	22	32	54	50
No. 5	1	1	1	28	31	25	81	22	31	53	37
No. 9	1	1	1	45	45	39	87	37	26	63	45
No. 11	1	1	1	51	46	39	85	42	29	71	51
No. 16	1	1	1	46	43	36	84	30	27	57	46
No. 19	1	1	1	50	39	30	77	33	24	57	50
No. 20	1	1	1	32	30	26	87	26	23	49	40
No. 23	1	1	1	41	45	38	85	44	20	64	58
Nos. 24 and 38	1	1	1	40	43	37	86	26	31	57	50
No. 25	1	1	1	31	35	31	89	25	31	56	42
No. 31	1	1	1	31	29	24	82	24	23	47	41
No. 33	1	1	1	25	26	22	85	22	16	38	34
No. 43	1	1	1	41	36	31	86	31	21	52	48
No. 53	1	1	1	58	37	31	84	29	33	62	58
No. 55	1	1	1	43	36	31	86	23	38	61	43
No. 76	1	1	1	31	40	36	90	28	27	55	45
No. 79	1	1	1	25	22	19	86	20	23	43	25
No. 93	1	1	1	40	36	30	83	31	19	50	44
Totals	20	20	20	774	740	631	86	574	542	1116	895
Colored Schools—											
No. 100	1	1	1	55	49	37	76	28	39	67	59
No. 106	1	1	1	35	40	25	63	42	53	95	48
No. 112	1	1	2	75	66	54	82	74	65	139	96
Totals	3	3	4	165	155	116	75	144	157	301	203
Grand totals	23	23	24	939	895	747	86	718	699	1417	1098

TABLE No. 11.

UNGRADED CLASSES.

UNGRADED CLASSES.	Number of classes.	Number of teachers.	Number of pupils belonging June 30, 1914.	Average number belonging for the year 1913-1914.	Average attendance for the year 1913-1914.	Per cent of attendance for year 1913-1914.	Total enrollment for the year 1913-1914.			Number belonging, including temporary withdrawals, June 30, 1914.
							Boys.	Girls.	Totals.	
White Schools—										
No. 3	1	1	10	15	13	87	29	.....	29	16
No. 9	1	1	17	13	10	77	26	.....	26	17
No. 10	1	1	15	13	11	85	8	8	16	15
No. 14	1	1	16	15	14	93	34	.....	34	16
No. 20	1	1	10	10	9	90	19	.....	19	13
No. 22	1	1	17	16	12	75	14	5	19	19
No. 25	1	1	23	29	28	97	42	22	64	28
No. 29	1	1	14	13	12	92	18	.....	18	16
No. 35	1	1	9	9	8	89	16	.....	16	9
No. 42	1	1	13	15	12	80	25	.....	25	16
No. 48	1	1	13	9	8	89	24	.....	24	13
No. 54	1	1	18	16	13	81	20	.....	20	18
No. 58	1	1	8	7	5	71	18	.....	18	12
No. 71	1	1	17	15	13	86	33	1	34	17
No. 76	1	1	13	20	18	90	23	9	32	21
No. 81	1	1	13	12	10	83	25	.....	25	16
No. 83	1	1	11	11	9	82	33	.....	33	16
No. 93	2	2	32	43	32	74	35	15	50	37
No. 98	1	1	17	15	13	86	27	.....	27	17
[1]No. 20	1	1	10	13	12	92	13	13	26	12
[1]No. 22	1	1	9	10	8	80	6	6	12	12
[2]No. 76	1	1	20	22	20	.....	11	19	30	25
[1]Kernan's Hospital	1	1	13	11	10	91	9	19	28	13
[1]Children's Hospital	1	1	17	17	16	94	13	12	25	17
[3]No. 76	1	1	8	12	11	91	12	4	16	16
[3]No. 7	1	1	12	10	9	90	18	4	22	12
[3]No. 21	1	1	12	11	9	82	13	9	22	12
Totals	28	28	387	402	345	87	564	146	710	451
Colored schools—										
No. 109	1	1	10	11	8	73	11	.....	11	11
No. 112	1	1	16	21	15	71	25	19	44	22
Totals	2	2	26	32	23	72	36	19	55	33
Grand totals	30	30	413	434	368	85	600	165	765	484

[1]Classes for crippled children. [2]Open air class for anæmic children.
[3]Classes for the study and observation of mentally subnormal children.

CITY OF BALTIMORE, DEPARTMENT OF CHARITIES AND CORRECTION

15TH ANNUAL REPORT, SUB-DEPARTMENT OF

SUPERVISORS OF CITY CHARITIES

TO THE MAYOR AND CITY COUNCIL
OF BALTIMORE

FOR FISCAL YEAR ENDING DECEMBER 31, 1914

SUPERVISORS OF CITY CHARITIES

J. HALL PLEASANTS, M. D., PRESIDENT,
JOHN BLACK,
CARY B. GAMBLE, JR., M. D.,
MRS. DANIEL MILLER,
ELISHA H. PERKINS,
ANTON G. RYTINA, M. D.,
DAVID STREETT, M. D.,
JAMES R. WHEELER,
J. WHITRIDGE WILLIAMS, M. D.

Bay View Committee:

John Black, *Chairman,*
Cary B. Gamble, Jr., M. D.,
J. Whitridge Williams, M. D.,
Mrs. Daniel Miller,
Anton G. Rytina, M. D.

Hospital and Dispensary Committee:

J. Whitridge Williams, M. D., *Chairman,*
Cary B. Gamble, Jr., M. D.,
James R. Wheeler,
David Streett, M. D.

Children's Institutions and Children's Committee:

Mrs. Daniel Miller, *Chairman,*
Cary B. Gamble, Jr., M. D.,
Elisha H. Perkins,
Anton G. Rytina.

Office Committee:

Elisha H. Perkins, *Chairman,*
John Black,
James R. Wheeler,
David Streett, M. D.

The offices of the Supervisors are on the second floor of the Court House, Room 241.

Hours: On week-days, 9 A. M. to 3 P. M.; on Saturdays, to 1 P. M.

REPORT

BALTIMORE, December 31, 1914.

To the Honorable Mayor and City Council:

GENTLEMEN—The care of certain classes of dependents of Baltimore city for which private charity fails to provide, and of delinquent minors, is entrusted to the Supervisors of City Charities. Under the terms of the City Charter, the following dependents come under the charge of the Supervisors:

Indigent aged and infirm.
Indigent sick.
Indigent insane.
Dependent children.
Temporary care of homeless men.
Transportation of non-resident poor to their homes.
Dependent blind.
Temporary care of wayward women.

In addition to the care of the dependents just enumerated, the Legislature at the Session of 1914 passed an Act transferring the supervision of *delinquent* minors committed to various reformatories with which the city has contracts from the Visitors of the Jail, to whom it was formerly entrusted under the City Charter, to the Supervisors of City Charities. The character of the additional work which this supervision over delinquent minors has entailed will be discussed more fully later.

To care for the various groups of dependents already referred to, the Supervisors not only directly maintain and conduct several hospitals and an infirmary for old people at Bay View, as well as medical agencies or dispensaries in various parts of the city, but also contract on a per capita basis with various State and private institutions for the care of the dependent sick, of the insane, of homeless men, and of dependent children who are properly city charges. Large numbers of children are also provided for in good private homes, where they are placed without expense to the city, and where they are carefully supervised and watched by trained visitors representing the Supervisors.

Bay View.

The work of the several departments at Bay View during the year 1914 has been most satisfactory. Four groups of dependents are cared for at Bay View. The total population at the institution, December 31, 1914, is 1,821. Of this number, 125 are officers of the institution, and 1,696 are inmates. The inmate population of the several departments as of this date is as follows:

Infirmary	888
Insane Department	450
General Hospital	185
Tuberculosis Hospital	173

The cost of running Bay View has shown a steady increase in the last few years, due largely to the increase in the cost of food supplies, and the greater proportion of hospital cases requiring skilled medical and nursing attendance. Detailed figures in regard to the operation and cost of the several departments, as well as statistical information and data of medical interest will be found in the reports of the Superintendent and of the physicians in charge of the several departments. The Supervisors wish to emphasize the steady improvement in the personnel of the officers and of the institution during the past four or five years, and the consequent improvement in the care of the inmates. This improvement is nowhere more noticeable than among the medical and nursing staff.

Important improvements in line with the general scheme of improvement at Bay View as outlined in the annual reports for the last two years have been carried on during the year 1914.

Main Building.

In the appropriations for 1914 provision was made for improvements to the main building or almshouse, which together with the balance left over from the appropriations for 1913 for the same purpose, has made it possible to do much work towards the renovation of this building, to which little has been done since its erection about fifty years ago. On account of the great size of the building it has seemed wise to take up the work of improvement in two divisions. Owing to the fact that the east half or men's end is much more crowded than the west or women's section, and also because it has been subjected to greater wear and tear, it was decided first to put the east half in good condition. The most pressing needs were the installation of a ventilating system, new plumbing involving the construction of a lavatory annex, new flooring throughout, new fireproof stairways, the

installation of a sprinkler system and high-pressure stand pipes for better fire protection, a new fire alarm system, and repainting the interior of the building throughout. It has been estimated that the cost of these various improvements will probably exceed $150,000. I am glad to be able to report that some of these new improvements have already been completed, and that others are either under way or will be soon started. The new sprinkler system, high-pressure stand pipe and fire doors have already been installed throughout both wings of the buildings, and have been in operation for nearly a year.

Lavatory Annex.

The new lavatory annex for the east or men's wing has been completed and is in operation. The total cost of this building has been about $32,000. It is a model of its kind. Four stories in height it contains ample facilities in the matter of showers, stationery bathtubs, urinals, toilets and wash basins to properly care for the needs of a population of over 700 housed in the men's side of this building. The building and plumbing is of the most modern sanitary character, and is first class in every respect. The yard lavatories, formerly housed in a detached frame building, are now situated in the basement of this new annex. With the facilities which are now available it is feasible to insist upon and maintain a very much higher standard of cleanliness among the inmates than was formerly possible.

Ventilating System.

The installation of a ventilating system, which it was hoped could be effected during 1914, has been delayed owing to the lack of sufficient appropriations to undertake and complete the work. With the additional appropriations available for 1915, it will be possible to install a complete ventilating system in the east or men's half of the main building. The contract for this work at a cost of somewhat less than $15,000 will probably be awarded in a few days.

Flooring.

A sample composition flooring was installed in one of the corridors and in certain rooms in the main building about a year ago. It has stood well the hard wear and tear to which it has been subjected, and it is hoped during the coming year to install it in many additional places in the old building. Practically all of the old flooring throughout this enormous building is in very bad shape. New flooring through-

out is required, but will be very expensive. As much flooring will be laid during the coming year as is possible with the funds available.

Fireproof Stairways.

The condition of the old wood stairways in the main building is such as to make the installation of new stairs throughout imperative. There are five stairways in all in this building, two in each wing and one in the center. It is proposed to replace immediately the central stairway and the two in the east wing with fireproof iron stairs. The Board of Estimates has authorized the Inspector of Buildings to draw up plans for this work, and bids will be asked in a few days for the work.

The erection of the men's lavatory annex and the installation of the sprinkler system and fire doors in the men's half of the building which have already been completed, together with the installation of the ventilating system, the new fireproof iron stairways and the re-flooring of this half of the building, which have been authorized and are about to be begun, together with a few minor changes, will result in the modernization in the very near future of one-half of this old landmark of Baltimore. Next year the work of renovation should be extended to the west, or women's half, of the building.

Cow Barn.

The new cow barn which was completed about a year ago was not occupied until the spring, the condition of the grounds and grading being such that it was found impossible to make use of it until about April. The new cow barn and feed barn have proven satisfactory in every respect. The city now has a building constructed along the most approved and modern lines of which it may well be proud. It is gratifying to realize that the buildings were constructed at a cost of about $1,500 less than the $12,500 appropriated for the purpose in 1913. A great deal of grading and filling has been necessary around the buildings. This work has been done by the inmates of the insane department of the institution. The work is not yet entirely completed. It will be necessary to build a concrete retaining wall to the west of the building. It is proposed to do this work during the coming summer with inmate labor. To properly protect the stock and other contents of the barn, it has been found necessary to have the lodgings of the farm laborers moved to this part of the Bay View grounds. A house with four rooms and a bath has just been bui't to the north of the cow barn. This house was built almost entirely with second-

hand lumber which belonged to the institution, and was erected by the carpenters regularly employed there. It was, therefore, put up at a very small cost, and meets admirably the purposes for which it was intended.

Power House.

During the year the operation of the power plant has continued to be entirely satisfactory. An additional boiler installed at a cost of $5,000 has been in use since April. The installation of this additional boiler was made necessary on account of the erection of new buildings, not only at Bay View proper, but also at Sydenham, which receives its heat and electricity from the Bay View power plant. The grounds about the power house have been cleaned up and graded, and a new road built around it.

It has not been found possible to erect a conveyor shed for the protection of the coal conveyor machinery from the weather and drifting snows, for the erection of which $1,000 was appropriated in the budget for 1914, as this amount was not sufficient. The Board of Estimates has now made provision for an additional $500. It is believed that the shed can be constructed for this amount. Plans are being prepared, and it is hoped that the work upon it will soon be under way.

Bungalow.

The bungalow for the physicians of the Tuberculosis Hospital, which was completed early in the year, has been occupied. It is a thoroughly satisfactory building, and fulfills everything which is required of it. The extensive sleeping porch on the south front is a valuable feature of the building, and adds much to the comfort and health of the medical staff.

Paths and Roads.

During the year concrete paths have been built from the front gate to the main building, to Ward A, and to the Tuberculosis Hospital. To those familiar with conditions at Bay View, the importance of this improvement will be fully appreciated. These paths serve not only as a great convenience to visitors from the city, but mean even more to the nurses and other officers of the institution, who are obliged to make innumerable trips daily between the various widely scattered buildings of the institution. No single improvement made at Bay View in recent years has meant as much for the appearance, convenience and cleanliness of the place.

Recreation Grounds.

The improvement of the inmates' recreation grounds in the rear of the main building, for which an appropriation of $3,000 was made for 1914, was commenced during the summer. The erection of various new buildings, the construction of the power plant tunnels by open cuts, the laying of sewers, and the re-location of steam pipes during the past few years, had caused the Bay View grounds, and more especially the recreation grounds in the rear of the main building, to present a most deplorable appearance. During the summer and autumn a serious effort has been made to improve this state of affairs. A concrete road extending across a portion of the recreation grounds has been built. The west or men's half of the recreation grounds, has been regraded, several of the shanties have been removed, and a number of wide, intersecting concrete walks for the use of the inmates in bad weather have been built. It is proposed during the coming spring to plant with grass seed or sod the areas between these intersecting paths and to place a number of benches about for the use of the inmates. Many of the old trees which formerly grew here have died, and new trees have been set out to take their places. Some of these cement paths have been put down with inmate labor. As soon as the weather permits this work will be again resumed. A concrete mixer recently purchased by the institution has already paid for itself several times over. It is hoped that the improvement of the east end of the recreation grounds, which is used by the women, will be completed this spring. As soon as it is finished, the unsightly high wooden fences surrounding these grounds will be replaced by an inconspicuous wire fence and privet hedges. Work can then be begun on the improvement of the recreation grounds in the rear of the west or women's end of the building, and it is hoped that this will be finished before the close of the year.

Ward A.

The Board of Estimates has authorized the installation of additional radiation to properly heat the west side of the new General Hospital or Ward A Building. It has been found that with the cold northwest winds, the temperature of the rooms on this side of the building is too low for the comfort and safety of the inmates. It is believed that it will be possible to begin this work immediately.

Tuberculosis Hospital.

The Tuberculosis Hospital is in need of sundry improvements and repairs. Some of the floors are in bad condition and require replacing. A covered way should be constructed to carry food from the adjoining kitchen to the hospital building. Lockers are needed for the patients' clothing and personal belongings. Some additional screening is required about the building. The grounds around the building should be graded and sown in grass.

Insane Department.

The overcrowded condition of the Insane Department at Bay View at the present time is really deplorable. The buildings for the male and female insane together have accommodations for 365 patients. The total number crowded in these buildings on December 31, 1914, is 450 patients. This means that these buildings are overcrowded to the extent of 85 patients and this overcrowding is daily increasing. There is no relief in sight before spring from any of the State institutions receiving the insane. There seems little doubt that Bay View will have over 500 insane crowded in these two buildings before overcrowding is relieved. This condition of affairs is not due to any fault on the part of the city. It is due to the failure of the State to live up to its repeated promises to take care of all the indigent insane of the State. The situation is discussed later in this report, under the head "Situation as Regards the Insane."

Inquiries were made at this department looking to the care of 663 insane persons during the year. Upon investigation it was discovered that many were able to pay private rates and were declined, but 341 new patients entered Springfield, Spring Grove, Mt. Hope, Crownsville or Bay View at the expense of the city.

Institutions for Dependents.

For the care and treatment of the various city charges outside of Bay View, contracts on a per capita basis have been entered into with 36 institutions, other than reformatories. Under the City Charter, lump appropriations to the institutions dealing with dependent children, with the insane, with the sick in hospitals or dispensaries, with homeless men, with wayward women who are expectant mothers, and with the care of the dependent blind, are forbidden, and payment to such institutions as the city contracts with for the care of these classes must be on a per capita basis, payment to be made only for work actually

done. The Supervisors exercise a rigid supervision over these institutions, and determine that each case received and cared for is deserving of city aid.

During the year 51,162 individuals were dealt with by the Department. The Supervisors of City Charities act as a clearing-house for the innumerable cases that baffle the Police Department and charitable institutions of the city. When all other resources fail the Supervisors are appealed to for help.

At the dispensaries 28,947 persons received treatment during the year at the expense of the city, and 5,567 visits were made to the homes of patients under the charge of physicians whose services were paid for by the city.

Nine thousand four hundred and sixty-four patients suffering from various types of illness were accepted as proper city charges and sent to the various hospitals with which the city has contracts. Six hundred and fourteen visits were made by our visitors in the interests of these patients. In addition to this, 2,417 individuals were admitted to Bay View Asylum, 16 persons were given the Pasteur treatment, 24 persons were given treatment as inebriates and 12 persons selected as suitable subjects to receive assistance from the Horwitz Fund.

Reformatories.

As already referred to, the Legislature at the Session of 1914 passed an Act which declares "The Supervisors of City Charities shall also have supervision over those persons committed to the penal, criminal and reformatory institutions with which the Mayor and City Council of Baltimore have contracts." As the only institutions of this character with which the city contracts are the various reformatories of a quasi-private character, which receive delinquent minors of both sexes, the problem of supervision concerns only delinquent male minors in the Maryland School for Boys, St. Mary's Industrial School, the House of Reformation for Colored Boys at Cheltenham and the National Junior Republic at Annapolis Junction, and female delinquents under twenty-one, in the Maryland Industrial School for Girls, the House of the Good Shepherd, the House of the Good Shepherd for Colored Girls and the Industrial Home for Colored Girls at Melvale. In addition to these institutions, the city has contracts with the Florence Crittenton Mission and the Exeter Street Rescue Home for Women, which are institutions of a semi-reformatory nature, receiving wayward girls, who are expectant mothers. The contracts for 1914 made provision for the care of about 1,080 inmates in the various above-mentioned institutions.

In some of these institutions there are also received a certain number of inmates who are not properly to be classed as delinquents. There are numbers of boys in one of the above institutions who are in no sense delinquents, and who have not been committed as the result of any crime or misdemeanor on their part. In the institution for boys, where both delinquent and dependent boys are received, the physical separation between these two groups is supposed to be effectively carried out, so that there is little communication or intercourse between them. The Supervisors feel very strongly that this separation between delinquents and dependents should be absolute. It is also felt that even where the physical separation is complete, the two departments of the institution caring for the two groups should be designated by different names, so that in after life no possible stigma may be attached to a child who has been sent to the institution solely on account of his dependency, and through no crime or misdemeanor.

The supervision of the inmates in the above-mentioned institutions begins with the commitment of the boy or girl by the Juvenile Court or other court, or by a police magistrate, to the institution. Agents of the Supervisors of City Charities, who are in attendance at the court, obtain a record of the commitment, which is approved in the office of the Supervisors. The subsequent career of the delinquent in the institution is closely followed from the time of entrance into the institution to the time of release, either through coming of age or on account of good behavior. Every effort is made to keep in touch with the boy or girl thus committed, so that the Supervisors can co-operate with the officers of the various institutions in determining what is the best course to pursue to produce the greatest benefit to the individual delinquent. The managers of the various institutions, as a rule, have shown a desire to co-operate with this Department in its endeavors to properly supervise these delinquent boys and girls who have become city charges.

Situation as Regards the Insane.

Attention has already been directed to the overcrowded condition of the Insane Department at Bay View, where 450 insane are housed in buildings intended to accommodate not more than 365. This condition of affairs is entirely due to the failure of the State to make good its repeated promises of the past to assume the care of all the indigent insane within its boundaries. The Legislature in 1910 and in 1912, and again in 1914, upon the recommendation of the State Lunacy Commission, authorized three successive loans, by means of which it was promised that provision was to be made for all the indigent

insane of the State. The State Lunacy Commission was empowered by the Legislature to remove the insane from the various county institutions and from Bay View to the several State hospitals for the care of the insane.

The Lunacy Law provides that the several counties and the City of Baltimore shall pay $100 a year per capita to the State for each insane person sent from the several counties or from the city to the State institutions. The State itself also makes direct appropriations to defray the expenses of operation of the several State hospitals over and above the $100 paid directly by the counties and the city for the care of each patient. The total cost for the maintenance of each patient in the State hospitals averages about $210. It is thus seen that of this $210, which it costs to support each patient, $110 is received directly through State taxes. At the present time practically all of the indigent insane of the counties have been placed by the State Lunacy Commission in State hospitals, where they are maintained partly at local expense and partly at the expense of the State, while today there are 450 indigent insane at Bay View which are being supported there by the tax-payers of Baltimore city entirely at their own expense, without any contribution for their support from the State, at a cost to the tax-payers of Baltimore of $160 each. The injustice of this arrangement to the citizens of Baltimore is too obvious to require further comment.

There is little prospect of immediate relief through the removal of patients from Bay View to the State hospitals, as none of the additional buildings at the State hospitals under construction will be ready for several months, nor when finished will there be room for half of this number. There is, therefore, every prospect that the city will soon have over five hundred patients to take care of in the present inadequate quarters at Bay View. The city has assumed that the State was acting in good faith, and that the promises of State care would be made good; therefore no additional buildings at Bay View for the care of the insane have been erected in recent years. In fact, the city looked forward to the early total abandonment of the old and dilapidated buildings now used for the care of the insane at Bay View. Even when all the buildings now authorized and under erection at the State institutions are finished and in use and some of the city patients at Bay View removed to them, there is every prospect that at the end of 1915 there will be at least 300 patients still remaining at Bay View, while in 1916 the number will run up to over

450; all of whom will be supported entirely at the expense of the city. Certainly the city is entitled in all justice to have its *proportion* of insane taken care of at the State institutions, and should at least have come in on equal terms with the counties. Had this been done, the deplorable condition of affairs as regards overcrowding at Bay View would have been obviated.

It now looks as if at the end of 1915 practically all the insane patients from the counties will then be in State institutions and maintained largely at State expense, to which, of course, the City of Baltimore contributes heavily through it share of the State taxes. This is most unjust discrimination and should be emphatically protested against. Looking ahead a year further, there is every prospect that the intolerable overcrowding now existing at Bay View will be again repeated, with this difference: there will then be no relief in sight, except such as may be granted by the next Legislature. The annual increase in the number of the insane in the city cared for at the expense of the city is about 150. The crisis which will confront the city two or three years from now, unless relief is granted by the Legislature, is self-evident.

Child Placing.

Provision has been made for the care of dependent children who have become city charges, either by placing them in free private homes or in institutions. In general, it may be said that the children who have become city charges have been committed to the care of the Supervisors, by the courts or otherwise, because private charity has failed to make provision for them. In deciding whether a child shall be placed in an institution or in a free private home, the individual needs of each child are carefully considered, but in general the private home is preferred. Whether placed in private homes or in institutions, all such children remain in charge of and under the authority of this Department, and frequent visits by trained agents are made to the private homes and to the institutions to make sure that proper care and attention are being bestowed.

In 1914 the Supervisors were requested to assume charge of 312 children. By careful investigation of these cases, however, the number which were actually accepted as city charges was reduced to 138; private charity providing for 124 without cost to the city, while relatives having suitable homes were induced to take charge of 50

children, and in this way many families were held together which would otherwise have been disrupted. In addition to this number, 30 children in institutions were returned to their relatives and the families re-united. Suitable free private homes, other than those with relatives, were found for 61 children. Including those children who have come under our control in previous years, there is now a total of 583 children who are wards of the city and under the care of the Supervisors. Of this number, 277 are in good private homes, without cost to the city, except the comparatively trivial expense which visiting and supervision by the the trained agents of the Department entail. One thousand nine hundred and three visits were made by these agents in the interest of these 583 children.

Friendly Inn.

The Supervisors have continued to contract with the Friendly Inn for the care of homeless men. Through the Department 15,609 lodgings were provided during the past year for 9,064 men, 617 of whom were physically incapacitated; 30,189 meals and 14,104 baths were given, and employment was secured for a number of men.

Under the Charter the Supervisors are entrusted with the expenditure of a fund of $1,000 to provide transportation for certain non-resident poor and destitute to their homes, when these are situated outside the City of Baltimore; $808.82 was spent during the year for this purpose. Two hundred and forty-three persons applied for transportation, 113 of whom we sent to their homes; 34 were referred to private charities and 17 would not permit an investigation. The remaining 79 were refused for excellent reasons.

Horwitz Fund.

During the year 1914, as in previous years, the Supervisors have recommended to the Mayor twelve families among the deserving poor which, under the terms of the will of the late Orville Horwitz, are to enjoy the interest from a fund now amounting to $20,000 left by him for this purpose.

General.

The only increase in the force of the city offices located in the Court House and in the City Hall Annex, has been the addition of a new visitor to assist in the supervision of the reformatories with which the city has contracts.

The cost of maintaining the city offices was $11,037.07 during the past year. This sum has been largely expended for the salaries and traveling expenses of clerks and trained visitors, whose duty it is to make a thorough investigation of the status of all persons applying for aid, to visit and inspect the numerous private institutions with which the Supervisors contract, and to watch over the welfare of children placed in free private homes scattered throughout the State. The entire cost of operating our city offices was more than returned to the city treasury in the one item of money collected through this office from the "reimbursing insane." The amount received from this source and turned over to the Comptroller in 1914 will be $16,811.70.

Additional information will be found in the report of the City Comptroller, showing in greater detail the manner in which the appropriations made to this Department have been expended for the care of the various classes of dependents coming under its charge.

The Supervisors expended during the year 1914, $707,298.62, as compared with $535,161.34 in 1913. The following table shows the amounts appropriated by the Mayor and City Council for the use of this Board:

1914.	Appropriation.	Expended.	Unexpended.
Bay View, salaries	$71,622 00	$64,879 59	$6,742 41
Bay View, expenses	173,026 94	173,026 94	.....
Bay View, new improvements	45,448 15	43,811 69	1,636 46
City office, salaries	10,360 00	9,442 42	917 58
City office, expenses	1,600 00	1,594 65	5 35
Hospitals	94,223 75	87,103 28	7,120 47
Insane	171,500 00	161,118 65	10,381 35
Temporary care of homeless men	2,000 00	2,000 00	.....
Transportation	1,000 00	808 82	191 18
Dispensary	11,850 00	11,615 24	234 76
Children	25,000 00	21,937 10	3,062 90
Maryland Workshop for the Blind	5,000 00	5,000 00	.....
Reformatories	131,180 00	124,960 24	6,219 76
Totals	$743,810 84	$707,298 62	$36,512 72

Amount expended			$707,298 62
Amounts paid to city:			
Bay View, sale of old material	$152 61		
Bay View, board of inmates	259 62		
		$412 23	
Reimbursing through city offices:			
For care of insane	$16,801 70		
For care of children	10 00		
		16,811 70	
			17,223 93
Net cost of all departments			$690,074 69

Respectfully submitted,

J. Hall Pleasants, M. D. *President,*
John Black,
Cary B. Gamble, Jr., M. D.,
Mrs. Daniel Miller,
Anton G. Rytina, M. D.,
Elisha H. Perkins,
David Streett, M. D.,
James R. Wheeler,
J. Whitridge Williams, M. D.

REPORT OF SUPERINTENDENT OF BAY VIEW ASYLUM

BAY VIEW ASYLUM, December 31, 1914.

To the Supervisors of City Charities:

GENTLEMEN—I hand you herewith the annual report of Bay View Asylum for the fiscal year ending December 31, 1914.

POPULATION.

The total number of inmates in the institution, including all departments, on the morning of January 1, 1914, was 1,585 (779 white males, 315 white females, 244 colored males and 247 colored females).

The admissions during the year were 2,417, and 9 were born in the institution, making a total of 2,426; of these 332 were persons admitted more than once and 198 inmates who were included in the population at the beginning of the year, who were discharged and readmitted during the year. The actual number of individuals cared for was 3,491. The number remaining in the institution at the close of the day December 31, 1914, was 1,704 (801 white males, 335 white females, 251 colored males and 257 colored females), an increase of 119, as compared with the same day in 1913. The total in each department as compared with the same day in 1913 was as follows:

	1914.	1913.	Increase.
Insane	451	399	52
Tuberculosis Hospital	175	143	32
General Hospital	213	197	16
Infirmary	865	846	119
Totals	1,704	1,585	119
Totals for 1913	1,585	....	....
Net increase	119	....	119

The daily average number of inmates was 1,513, as compared with 1,478 for the year 1913, an increase of 35. The highest number

present at one time was 1,702 on the 4th of March, and the lowest, 1,394, on the 7th of August.

Deaths.

The total deaths for the year were 675 (258 white males, 118 white females, 172 colored males, 127 colored females), an increase of 55 as compared with 1913. The deaths from tuberculosis were 267, or .396 per cent of the total; 300 or .455 per cent of the total deaths were colored persons. An increase in this race of 37 as compared with 1913.

The average age of the white males who died was 53 years.

The average age of the white females who died was $58^{4}/_{12}$ years.

The average age of the colored males who died was $46^{6}/_{12}$ years.

The average age of the colored females who died was 47 years.

The average age of those who died of tuberculosis was $38^{1}/_{12}$ years.

The average age of those who died, exclusive of the tuberculosis cases, was $59^{3}/_{12}$ years.

The average age of the total who died was $50^{11}/_{12}$ years.

Friends claimed 482 bodies, 53 were buried by St. Vincent de Paul Society, and 140 unclaimed were turned over to the Anatomical Board.

Commitments by Police Magistrates.

The total committed by the magistrates and judges of the Criminal Court during the year was 213, two less than last year; 147 white males, 17 white females, 41 colored males and 8 colored females. A number of those committed escaped before their time of commitment expired. Our grounds are open, we have no guards and no way of restraining those who want to go. Some of these cases are more deserving of the House of Correction and those who run away should not be sent back to us again.

Financial.

The amount appropriated for the support and improvements of Bay View and unexpended balances available for the year 1914 was as follows:

Appropriation for salaries	$71,622 00	
Appropriation for expenses	168,039 00	
Transferred from Supervisors' appropriation for care of insane	5,000 00	
Appropriation for improvements	50,000 00	
Unexpended balance brought forward from 1913	23,147 47	
Total available		$317,808 47

Expenditures.

Expended for salaries	$64,879 59	
Expended for expenses	173,026 94	
Expended for improvements	60,302 21	
Unexpended improvements appropriation carried forward to 1915	11,208 80	
Unexpended appropriation for cow barn remaining in city treasury	1,596 29	
Unexpended salaries remaining in city treasury	6,742 41	
Unexpended expenses remaining in city treasury	12 06	
Unexpended boiler appropriation remaining in city treasury	40 17	
		317,808 47

Two hundred and fifty-nine dollars and sixty-two cents for board of inmates in hospital and infirmary and $152.61 for sales of old material was collected and paid to the City Comptroller; $732.66 for board of insane at Bay View was collected by the secretary of your Board, and included in his return for reimbursing insane. As the keep of the insane at Bay View is paid for out of the expense appropriation for Bay View the amount collected by the secretary should be credited to this institution in arriving at the net cost to the city.

The per capita cost of maintenance in each department after crediting the above cash receipts was $157.31 for Insane, $221.62 for General Hospital, $235.01 for Tuberculosis Hospital and $104.35 for Infirmary. The average of the total of all departments was $151.86.

The per capita cost of feeding in each department was $45.56 for Insane, $69.85 for General Hospital, $85.83 for Tuberculosis Hospital and $36.14 for Infirmary, and the average for the whole population, $49.31, or $13^{6}/_{10}$ cents per day for each person.

We are furnishing Sydenham Hospital with water, steam and electric current, for which we do not receive any payment. I estimate that the additional work in doing this adds at least $2 per capita to our cost of maintenance.

Medical Board.

Regular meetings have been held during the year and the attendance has been good. Special meetings were also held several times.

City Detention Hospital for the Insane.

Dr. Kenneth B. Jones, the physician-in-chief at the beginning of the year, resigned June 1, and was succeeded by Dr. Henry E. Austin, with the usual staff of one resident physician and one interne.

The total number of patients remaining at the close of the day December 31, 1914, was 451, as compared with 399 at the beginning of the year, an increase of 52.

The wards are all overcrowded and if some relief is not soon provided we will be unable to accommodate additional patients.

The daily average number of patients for the year was 421, an increase of 37 over the year 1913.

The admissions during the year amounted to 340. The deaths were 86 and discharges 202; of the latter 113 were transferred to State hospitals, Mount Hope and Bay View Infirmary.

The highest number present on any one day was 460, on November 11, and the lowest, 389, April 19.

Some additional furniture has been provided and a few minor improvements made. The wards are now in fairly good condition.

We have continued to use the patients in different kinds of work as far as practicable. The women's sewing-room turned out 5,791 pieces of clothing, etc., and repaired 9,995 articles.

The moving-picture shows were continued during the winter months and music in the yard during the summer.

Church services by the laymen of the Protestant Episcopal Church were held two Sundays in each month, and the Roman Catholic priest has responded night and day when called for the sick.

Municipal Tuberculosis Hospital.

This Department remains under the charge of Dr. Gordon Wilson, physician-in-chief, with one resident physician and four internes.

The bungalow which was built for the doctors has proved a great comfort.

The total number of patients remaining at the close of the year was 175, an increase of 32 as compared with the first day of the year.

The daily average for the year was 157, an increase of 5 over the year 1913.

The Sunshine Society, St. Vincent de Paul Society and other kind friends have done much for the comfort of the patients by their visits and contribution of fruit, candy, etc. The per capita cost of maintenance was $235.01.

The hospital building and nurses' rooms are much in need of fresh paint.

General Hospital.

This Department continues under the directions of Dr. Thos. R. Boggs, physician-in-chief; Dr. Arthur Shipley, surgeon-in-chief, with a resident staff of one physician, one surgeon and eight internes.

The number of patients remaining at the close of the day December 31, was 213, five less than at the same time in 1913.

An additional ward is now being made on the main side of the Infirmary for incurable cases. This has been greatly needed and will not only relieve the sleeping rooms where they have been kept, but make the patients more comfortable and enable us to give them more attention. The wards now in use are overcrowded.

Ward "A" has been kept well filled; frequently transfers of patients must be made to the Infirmary in order to make room for more urgent cases. Another unit in the proposed hospital plan is needed.

Infirmary.

The total number of inmates in the Infirmary, including a number of dispensary cases, at the close of the year was 865, an increase of 40 as compared with the same time last year.

The daily average number for the year was 693, 25 less than in 1913.

A new lavatory has been built in the male side, a great improvement on the old one, and where the men can bathe without going to the old bath house in the yard. Cement paths and concrete road have been laid in rear of east end of the building and the grounds much improved.

There has been a decrease during the year in the number of white females; the large majority are too infirm and aged to work; there are fewer in the sewing-room than we have had for years. Those we have been able to use have done good work and made 14,920 articles of various kinds.

Farm.

The long drought during the summer, one of the severest for years, was a serious drawback in our farming operations. The cholera amongst our hogs, which continued during the first month of the year, also caused considerable loss. Notwithstanding these difficulties we show at a fair valuation a profit of $975.52, this after increasing our stock of cows 5, and one additional horse, the cost of which is included in the expenses. No credit is given the farm receipts for the extra work the hands do, such as hauling ashes, oyster shells for the

roads, cleaning up the grounds, grading, etc. In addition to the tomatoes used on the tables we put up 3,027 one-gallon cans, all by our own labor.

The new barn which has proved a great improvement was opened in August.

Improvements.

The new cow barn was completed and put in use in August. It is L-shaped, has stalls in one wing for 52 cows, and in the other wing feed room and box stalls for cows with calf and young stock. It is a great and much needed improvement. The old barn has been taken down.

Cement walks have been laid from the front gate to the Tuberculosis Hospital; also in the rear of east half of main building, and a concrete road run from east gate to beginning of female yard.

A new and finely equipped lavatory has been built to connect with the old lavatory on male side. In one end on the lower floor, a yard lavatory has been installed and the old building in the yard has been taken down.

Kompolite floors have been put down on one hall and several of the rooms.

A new 250 horsepower Babcock & Wilcox boiler has been added to the plant in the power house. This gives a total of 1,250 horsepower and will be sufficient to care for further improvements for some time.

A number of minor improvements have been made by use of our inmate labor, cement paths laid, grading done in places, underground drains laid, a new medical and surgical dispensary fitted up on male side of the building, steam line run from power house to cow barn and globe lights put along road from front gate to Ward "A."

General.

Church services are held frequently in the chapel, a hall on first floor and in insane wards.

The chapel is unique, and as some who may read this report have never seen it, a description may be of interest. The room is circular, situated on the third floor directly under the dome. On one side is the Roman Catholic altar and chancel erected by the Catholics, on the opposite side is an altar and chancel erected by the Episcopalians. This latter is used by all Protestants. The seats are reversible so the congregation can face either chancel. Services begin on Sunday morning with mass by the Catholics at 7 A. M., later at 10.25 there is a Methodist service and at 7 or 7.30 P. M. an Episcopal service. The

Methodists also have services at 2 P. M. in the former female dining-room on first floor. Other services are held daily in this room, on Tuesday night in the chapel by the Lutherans, and Thursday in the chapel by the Episcopalians.

All departments have been short of competent help; with the small salaries allowed it is impossible to secure the class of help we should have.

Kind friends have added to the comfort and pleasure of the inmates; several concerts and other entertainments were given in the Infirmary during the winter months. The Sunshine Society and St. Vincent de Paul Society especially have done much to make the life of the inmates happy.

Respectfully submitted,

LAMAR HOLLYDAY,
Superintendent.

BAY VIEW GENERAL HOSPITAL

BALTIMORE, April 12, 1915.

To the Board of Supervisors of City Charities:

GENTLEMEN—We beg to suggest some of the needs of the hospitals which are more urgent:

The nursing situation is still in very urgent need of improvement. Until we have larger quarters for the nurses, which will enable us to operate a training school fully qualified under the State laws, we cannot have or hold enough pupils to do the work in an adequate manner. Our pupils cannot register under the State Board of Nursing Examiners, and, therefore, we have little hold on their services, and the average stay of pupils is about one year. In other words, as soon as they have a little practical experience and begin to be of real help to us, they leave to enter qualified training schools or register as attendants and we have to take green hands in their place. To give proper attention to the General Hospital and chronic wards, we should have a school of 30 nurses, taking in a class of probationers each year and graduating those who have completed three years' training.

In the General Hospital certain replacements are very much needed, viz.: New beds to take the place of the old ones brought over from the Infirmary when we moved. Many of the mattresses need replacing after three years' hard use and frequent sterilizing. More wheel-chairs, slippers and patients' uniforms are needed to replace losses and worn-out articles.

The need of an X-ray department becomes clearly more urgent with the growth of the surgical work. It is also to be noted that the work done for us gratis by the Johns Hopkins Hospital X-Ray Department has been much curtailed and will probably be cut off altogether in the near future.

We should again like to call your attention to the drinking water problem in the General Hospital and Infirmary. In the summer months we have no adequate sanitary supply of cool drinking water.

We should have automatic bottle containers iced outside and a supply of paper envelope cups. Individual drinking cups should be supplied.

The laundry service continues unsatisfactory and destructive to clothing of patients, nurses and doctors, as well as a frequent source of loss. The amount lost from carelessness and poor work would pay for adequate help in the laundry.

The laboratory continues to meet increasing demands under some difficulties and we would again suggest that a part at least of the expense of maintenance and operation be met in the annual budget and not from the general expense account.

The telephone service, while better, leaves much to be desired in efficiency. The whole system should be operated from one board.

We are hopeful that the use of the manure spreaders will reduce the fly nuisance somewhat, but urge again that the screening and sanitation of the places of collection of refuse, manure and garbage is the only way to eradicate this disgraceful pest. Open slop barrels are scattered about the premises and many breeding places still exist, which cause the dining-rooms to swarm with flies. The receiving and distributing station in the new service and kitchen buildings are swarming with them.

Respectfully submitted,

THOS. R. BOGGS,
Physician-in-Chief.

ARTHUR SHIPLEY,
Surgeon-in-Chief.

CITY DETENTION HOSPITAL FOR THE INSANE

BALTIMORE, December 31, 1914.

To the Board of Supervisors of City Charities:

GENTLEMEN—During the past year there has been treated in the Hospital, for varying periods, a total number of 739 patients. There were at the beginning of the year 399 patients; 340 were admitted and 202 discharged. Of this 202, 94 were discharged either directly or after being paroled for 30 days, 6 escaped, 34 were transferred to Springfield, 34 to Spring Grove, 10 to Mt. Hope, 2 to Rosewood, 1 to Eastern Shore and 20 were deported from the State; 86 deaths occurred during the year, making a total egress of 280. Four hundred and fifty-one patients remained in the Hospital on December 31. Of the 202 discharged, 34 were considered recovered, 71 improved, 92 unimproved and 5 not insane.

The general health of the Hospital has been good during the year. There were two cases of typhoid fever, otherwise there were no epidemics of any kind. These cases were immediately transferred to the General Hospital, where one recovered and the other died from intestinal perforation. Typhoid vaccine was given at once to all patients in the Hospital, who had not received it 12 months previously, with apparently effective results. One major operation was performed (a herniotomy) at the General Hospital. Many minor operations were performed at the ward.

The medical staff is entirely too small. With the new admissions and a resident population of 450, one can readily see the amount of regular routine work to be done. With such a small and inexperienced staff and with a limited equipment, it is impossible to extend our work along any special line. The work here could be made very interesting and beneficial with an efficient and adequate equipment to thoroughly investigate and work up each individual case.

The crowded condition of the male wards has been somewhat relieved by the opening of the fourth ward of the female building.

which had been abandoned some years ago. By opening this ward, we were able to move the female patients, some of which are tuberculous, from the Annex Building, leaving room for 39 male patients. By this means we have been able to relieve the congested condition on the white and colored male wards for the time being. This change has made it impossible to segregate our female tuberculous patients, which is a very undesirable arrangement.

Over 50 per cent. of our male patients are employed in some way. We provide coal passers, farm workers and a grading gang for the institution, and a great part of the common laboring work around the Hospital is done by the patients.

Our broom-making industry, which employs three or four men a few months each winter, furnishes brooms for the entire institution and is a good example of what might be accomplished in the way of an industrial workshop.

From the female side we furnish most of the help in the laundry, and have a sewing-room, where all of the clothes for the female patients and all the underclothes and top shirts for the male patients are made.

An appropriation has been obtained for a female industrial worker for the coming year. This will, I am sure, prove a great help in the treatment and care of many of our patients. The diversion received through occupation and amusement is a great healer of the mind and mental disease.

In closing, I wish to thank all who have been of assistance to me during my incumbency as physician-in-chief.

Respectfully,

HENRY E. AUSTIN,
Physician-in-Chief.

REPORT OF THE PHYSICIAN-IN-CHARGE OF THE MUNICIPAL TUBERCULOSIS HOSPITAL

Baltimore, December 31, 1914.

To the Board of Supervisors of City Charities:

Gentlemen—I beg leave to submit herewith the report on the Municipal Tuberculosis Hospital for the year ending December 31, 1914. During the past year there has been treated in the Hospital, for varying periods, a total of 700 patients—an increase of 35 as compared with 1913. Of these 700 patients, 286 were discharged, 239 died and there were 175 patients in the Hospital on December 31.

Cost.

The cost of running the hospital, including all expenses, save the interest on the investment, was, during 1914, a trifle over 64 cents per patient per day, of which amount 24 cents went for food alone.

During 1914 our daily average number of patients was 157, while in 1913 it was 152.

Statistical Tables.

I have appended two statistical tables. A study of them will show matters of interest, and will also aid in directing the future necessary improvements.

Recommendations.

We have at present a sufficient number of graduate and undergraduate trained nurses, but their home is overcrowded and badly arranged. I need only say, our 12 undergraduate nurses have four bedrooms (3 to each room), and these rooms are less than 12 feet square. The building of a new nurses' home or the reconstruction of the present one is most urgently needed.

I would again recall the recommendations made in last annual report in regard to: (1) Increased pay for orderlies; (2) a dish-washing machine; (3) individual lockers for patients' clothes; (4) sanitary

floors; (5) covered areaway between kitchen and hospital; (6) laundry drying room; (7) screening of porches; (8) X-ray plant.

There are a great many minor improvements that could be recommended, but the above are so important that I will mention no others.

I desire to take this opportunity of thanking my assistants—Dr. Callahan, resident physician, and Drs. Cook, Hableston, Limbaugh and Stein, assistant resident physicians—for their most excellent work during the past year.

I also desire to thank Miss Smith and the nurses under her for their capable work in the care of the patients.

The active co-operation of the Health Department, and especially the nurses of the Tuberculosis Division, is acknowledged with thanks.

Respectfully,

GORDON WILSON, M. D.,
Physician-in-Charge.

MUNICIPAL TUBERCULOSIS HOSPITAL

DEATHS DURING 1914.

Sex and Color.	Number of Patients.	Average Age.	Social Condition.				Condition on Admission.			Sputum Examination.			History of Haemoptysis.			Average Number of Days in Hospital.	Average Number of Days in Bed.	Autopsies.		Less Than 10 Days in Hospital.	Less Than 1 Month in Hospital.	Over 3 Months in Hospital.	Over 1 Year in Hospital.
			Single.	Married.	Widowed.	Separated.	Incipient.	Moderately Advanced.	Far Advanced.	Positive.	Negative.	No Record.	Positive.	Negative.	No Record.				Non-tubercular.					
White male	103	43	56	27	9	11	...	1	99	86	12	5	25	64	14	73	58	32	3	21	32	20	4
White female	24	35	6	8	8	2	...	1	22	19	4	1	6	17	1	92	74	9	1	3	5	7	1
Colored male	68	33	40	10	9	9	...	3	64	50	9	9	21	38	9	37	35	18	1	19	27	7	...
Colored female	44	34	22	8	8	6	...	2	41	29	9	6	13	29	2	69	65	12	1	8	12	12	1
Total white	127	41	62	35	17	13	...	2	121	105	16	6	31	81	15	77	61	41	4	24	37	27	5
Total colored	112	33	62	18	17	15	...	5	105	79	18	15	34	67	11	49	47	30	2	27	39	19	1
Total male	171	39	96	37	18	20	...	4	163	136	21	14	46	102	23	59	49	50	4	40	59	27	4
Total female	68	34	28	16	16	8	...	3	63	48	13	7	19	46	3	77	68	21	2	11	17	19	2
Totals	239	38	124	53	34	28	...	7	226	184	34	21	65	148	26	64	55	71	6	51	76	46	6

DISCHARGES, 1914.

Sex and Color.	Number of Patients.	Average Age.	Social Condition.				Condition on Admission.			Sputum Examination.			History of Haemoptysis.			Average Number of Days in Hospital.	Average Number of Days in Bed.	Weight.				Condition on Discharge.				Less Than 10 Days in Hospital.	Less Than 1 Month in Hospital.	Over 3 Months in Hospital.	Over 1 Year in Hospital.	Over 2 Years in Hospital.	Over 5 Years in Hospital.
			Single.	Married.	Widowed.	Separated.	Incipient.	Moderately Advanced.	Far Advanced.	Positive.	Negative.	No Record.	Positive.	Negative.	No Record.			Number Gaining.	Average Amount Gained (Lbs.)	Maximum Gained (Lbs.)	Number Losing.	Average Amount Lost (Lbs.)	Number Not Changing, or No Record.	Apparently Cured.	Arrested.	Improved.	Unimproved.					
White male	167	43	88	44	24	11	35	46	86	79	85	3	62	100	5	115	31	74	9	41	31	6	62	..	1	96	70	19	42	6	3	1
White female	53	36	17	21	13	22	19	12	22	15	32	6	21	29	3	145	36	28	9	28	8	6	17	..	..	29	24	5	10	14	2	1	..
Colored male	43	35	22	12	4	5	18	10	15	16	25	2	17	24	2	131	44	19	8	23	10	5	14	..	2	21	20	5	8	14	1	..	1
Colored female	23	29	8	7	2	6	8	3	12	13	10	..	7	16	..	51	51	7	6	17	6	5	10	..	..	6	17	2	8	2	..	..	..
Total white	220	41	105	65	37	13	54	58	108	94	117	9	83	129	8	122	32	102	9	41	39	6	79	..	1	125	94	24	52	55	8	4	1
Total colored	66	33	30	19	6	11	26	13	27	29	35	2	24	40	2	103	46	26	7	23	16	5	24	..	2	27	37	7	16	16	1	..	1
Total male	210	42	110	56	28	16	53	56	101	95	110	5	79	124	7	118	34	93	9	41	41	6	76	..	3	117	90	24	50	55	7	3	2
Total female	76	34	25	28	15	8	27	15	34	28	42	6	28	45	3	117	41	35	8	28	14	6	27	..	..	35	41	7	18	16	2	1	..
Totals	286	39	135	84	43	24	80	79	135	123	152	11	107	169	10	118	36	128	9	41	55	6	103	..	3	152	131	31	68	71	9	4	2

ANNUAL REPORT OF THE PATHOLOGICAL DEPARTMENT OF THE CITY HOSPITAL

BAY VIEW HOSPITAL, December 31, 1914.

To the Board of Supervisors of City Charities:

GENTLEMEN—In accordance with the precedent established last year I herewith submit a report of the Department of Pathology.

The enthusiasm with which the clinical staff has obtained autopsies becomes evident from the following table:

Year.	No. of Autopsies.
1912	72
1913	153
1914	228

The total number of deaths occurring in the institution during the year was 666 as compared with 631 of the preceding year. Therefore the percentage of autopsies was 32 per cent. as compared with 24 per cent. of the preceding year. It must be remembered, however, that a considerable number of bodies are claimed by the Anatomical Board, and on the vast majority of these no autopsy is permitted. During the current year this Board received 123 bodies. They allowed an examination upon 13, or 10 per cent., and did not allow such examination on 110, or 90 per cent. If these cases be subtracted from the total number of deaths, the percentage of autopsies will be increased to 42 per cent.

It is quite apparent that the large increase in autopsies during the current year has been brought about chiefly by the interest and enthusiasm of the physicians-in-chief and their assistants.

In many cases the permission for the autopsy was obtained only after a special visit to the family of the patient by one of the resident staff.

The 228 autopsies were divided among the various services as follows:

Service.	No. of Deaths.	No. of Autopsies.	Per Ct. of Autopsies.
Medical—			
Ward A	199	84	42
Almshouse, Chronic Hospital, Annex	74	21	30
Total	273	105	72
Surgical	77	33	43
Phthisical	239	71	33
Insane	86	18	20

During the past two years the records of about 400 autopsies have been carefully made, typewritten and bound. Microscopic slides of these autopsies have been likewise filed and material from each organ preserved. This forms a nucleus of autopsy records, which, if properly developed, may grow to be one of the few valuable collections in the country.

It is unfortunate that the inadequate housing and equipment of the Department of Pathology must again be emphasized. The present morgue bui'ding and the laboratory facilities, available through the courtesy of the Medical Department, are not sufficient to carry on properly the work of the department. With the development and reorgarization of the institution and the increase in the number of post-mortem examinations these needs become more pressing.

The medical schools of the city are greatly in need of just the type of material which is so abundant in the Department of Pathology of the City Hospital. Opportunity for investigating the cause of many obscure conditions is afforded by the post-mortem examinations, and without doubt a department could be organized which would be of great importance to the institution as well as to the community as a whole, if the facilities for carrying on such work were available.

Not alone is a building needed, but a sufficient budget and trained men to direct these investigations are also necessary.

Respectfully,

M. C. Winternitz,
Pathologist-in-Chief.

CITY OFFICE STAFF

NATHANIEL G. GRASTY.....*Secretary*
T. JAMES HUNTER.....*Visitor-in-Chief*
GEORGE SCHUSTER.....*Chief Clerk*
*MRS. EMILY DUVALL.....*Clerk and Visitor*
MISS ELEANOR C. NELSON.....*Clerk and Visitor*
MISS ELIZABETH S. WALSH.....*Visitor*
MISS MARY O. SIMPSON.....*Visitor*
MRS. LURA B. HEPBURN.....*Visitor*
MISS M. MERCEDES MURRAY.....*Visitor*
MRS. MARY CONWAY.....*Clerk and Stenographer*

MEDICAL AGENCIES

H. D. MCCARTY, M. D.....*Physician-in-Charge*
ELLIOTT H. HUTCHINS, M. D.....*Physician-in-Charge*
GILBERT F. BUXTON, M. D.....*Physician-in-Charge*
JENNIE N. BROWNE, M. D.....*Assistant Physician*
MARY COOKE WILLIS, M. D.....*Assistant Physician*
BERTHA TAPMAN, M. D.....*Assistant Physician*

*Died.

BAY VIEW

OFFICIAL STAFF

LAMAR HOLLYDAY.....*Superintendent*
DAWSON E. HAMMOND.....*Purveyor*
HENRY S JACKSON.....*Clerk*
JOHN T. MCGUINNESS.....*Clerk*
EZRA B. STEIGER.....*Clerk*
MARY E. NELSON.....*Stenographer*
JANE C. COOPER.....*Pharmacist*
MARY E. LITTLE.....*Matron*
MARY MERCER.....*Sewing Teacher*

BAY VIEW HOSPITAL

MEDICAL AND SURGICAL STAFF

Physician-in-Chief:
THOMAS R. BOGGS, M. D.

Surgeon-in-Chief:
ARTHUR M. SHIPLEY, M. D.

Resident Physicians:
*LESTER ADAMS, M. D. M. C. PINCOFFS, M. D.

Resident Surgeon
*ROBERT B. PATRICK, M. D. W. HOUSTON TOULSON.

Assistant Resident Physicians:
*CHARLES CRAWFORD HINTON, M. D. C. C. HOKE, M. D.
*ROY ROSCOE SPENCER, M. D. *LINTON GERDINE, M. D.
*P. C. BEAN, M. D. †MAURICE L. RICHARDSON, M. D.
†H. L. RAYSOR, M. D. *N. J. GOULD, M. D.
WILLIAM C. DUFFY, M. D. JOHN H. SEWELL, M. D.
HORACE W. BYERS, M. D. N. G. NESBIT, M. D.
J. C. BROGDAN, M. D.

Superintendent of Nurses:
*ANNA C. TURFORD, R. N. A. M. HILL, R. N.

Consulting Physicians:

Opthalmologist:
JAMES J. MILES, M. D.

Otologist:
WILLIAM TARUN.

Gynecologists:
EDWARD H. RICHARDSON, M. D. HUGH W. BRENT, M. D.

Urologists:
GIDEON M. TIMBERLAKE, M. D. JOHN T. GERHARTY, M. D.

Dermatologist:
E. A. STROBEL, M. D.

Pathologist:
MILTON C. WINTERNITZ, M. D.

Laryngologist:
FRANK DYER SANGER, M. D.

Pediatrician:
JOHN RURAH, M. D.

Neurologist:
HENRY M. THOMAS, M. D.

---

*Term expired.
†Resigned.

TUBERCULOSIS HOSPITAL

Physician-in-Chief:

GORDON WILSON, M. D.

Resident Physician:

F. F. CALLAHAN, M. D.

Assistant Resident Physicians:

*JOSEPH SPARCK, M. D.
†CHARLES S. NIESTADT, M. D.
HARRY STEIN, M. D.
LOUIS LIMBAUGH, M. D.
*FREDERICK J. WILKINS, M. D.
C. L. COOK, M. D.
CHARLES C. HABLISTON, M. D.

Supervising Nurse:

MAUDE E. SMITH, R. N.

---

*Term expired.
†Resigned.

RECEPTION HOSPITAL FOR INSANE

Physicians-in-Chief:

*KENNETH B. JONES, M. D.
HENRY E. AUSTIN, M. D.

Resident Physician:

*WILLIAM WIRT EICHELBERGER, M. D.

Assistant Resident Physicians:

HARRY GOLDSMITH, M. D.
PHILIP PEARLSTEIN, M. D.

Supervising Nurse:

JENNIE SWARNER.

Supervisor:

A. C. ROBERTS.

Consulting Staff:

HENRY J. BERKLEY, M. D.
ADOLF MEYER, M. D.

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*Term expired.

COMPLIMENTS OF . . . .

WILLIAM MOHR

SUPT. OF LAMPS AND LIGHTING

ANNUAL REPORT

OF THE

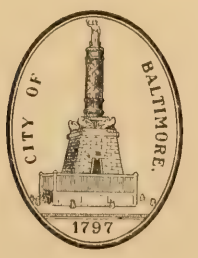
SUPERINTENDENT OF LAMPS AND LIGHTING

TO THE

Mayor and City Council of Baltimore

FOR THE

FISCAL YEAR ENDED DECEMBER 31, 1914



BALTIMORE
MEYER & THALHEIMER
CITY PRINTER

1915

REPORT OF THE SUPERINTENDENT

OFFICE OF

SUPERINTENDENT OF LAMPS AND LIGHTING,

CITY HALL,

BALTIMORE, December 31, 1914.

To the Honorable the Mayor and City Council of Baltimore.

GENTLEMEN:

I have the honor to submit for your consideration the Annual Report of the Department, showing the work performed by my predecessor, the late Robert J. McCuen, whose death occurred on August 31 last, and its continuation since my appointment to that office on November 2, 1914, in connection with the maintenance and operation of the street lighting service of the City of Baltimore, for the year ended December 31, 1914.

There has been a great deal of work planned and executed by the Department during the past year, made necessary by the lighting of newly-opened thoroughfares; improving the service on many prominent streets; the substitution of electric or gas for naphtha lamps; the transfer of all kinds of street lamps from former to new locations for the betterment of the service and for the convenience of the other departments and the public; the changing of electric arc lamps from overhead to underground service; the general repair of the lighting equipment; and the special illumination in honor of the Canners' Convention, the Star-Spangled Banner Centennial

Celebration, the Luther League of America, and the Convention of American Catholic Societies.

Type and Number of Street Lamps in Service.

On December 31, 1914, there were in service street lamps of all classes as follows:

Incandescent mantle gas lamps	10,176
Incandescent mantle naphtha lamps	378
Incandescent electric lamps (40 C. P.) overhead service	894
Incandescent electric lamps (40 C. P.) underground service	152
Luminous "White Way" arc lamps, all-night underground service	680
Luminous "White Way" arc lamps, half-night underground service	287
Electric arc lamps, old type, all-night underground service	748
Electric arc lamps, old type, half-night underground service	46
Electric arc lamps, old type, all-night overhead service	1,519
Incandescent electric ornamental underground lamps, 60 to 80 candle-power	572
Total	15,452

Lamp Equipment Property of City.

All the ornamental luminous arc lamps and fixtures used in the "White Way" districts, as well as the ornamental lamps and fixtures in service on the several boulevards in north Baltimore, the City Hall Plaza and on the various bridges, together with the gas lamp posts and lanterns, with the exception of a number of "Boulevard" lanterns and patent lamp burners, are the property of the city. All other lamp fixtures are the property of the contractors.

Maintenance of Street Lamps.

All the street lamps are operated and maintained under contract by private corporations, with the exception of the following:

271 lamps on North Charles street, from North avenue to northern city limits.
55 lamps on University Parkway, from Charles street to Stoney Run Bridge.
6 lamps on Stoney Run Bridge, crossing University Parkway.
22 lamps on Thirty-ninth street, from University Parkway to Oak street.
22 lamps on Oak street, University Parkway to Mallory lane.
16 lamps surrounding Eastern Female High School.
25 lamps surrounding Western Female High School.
24 lamps surrounding Polytechnic Institute.
15 lamps on North Washington street, North avenue to Clifton Park.
14 lamps on Edmondson Avenue Bridge.
10 lamps on Monroe Street Bridge.
8 lamps on Hamburg Street Bridge.
8 lamps on Harford Avenue Bridge.
8 lamps on Stockholm Street Bridge.
8 lamps on Lee Street Viaduct.
161 lamps on St. Paul Street Bridge.
142 lamps on Calvert Street Bridge.
60 lamps on City Hall Plaza (12 clusters, five each).

These lamps are the property of the city and are operated and maintained by this Department direct. The current is furnished by the Gas and Electric Company (by meter measurement), except the lamps on the City Hall Plaza, which are supplied by the High Pressure Pumping Station on South street.

Cost of Maintaining and Operating the Street Lamps.

The cost for the operation and maintenance of the street lamps is at the following rates per lamp per year:

Incandescent mantle gas lamps (including the supply of gas), based on 4,000 burning hours per year at three cubic feet per hour at 67½ cents per 1,000 cubic feet	$17 50
Incandescent mantle gas lamps, ornamental heads (including supply of gas), based on 4,000 burning hours per year at four cubic feet per hour at 67½ cents per 1,000 cubic feet	20 20
Incandescent naphtha lamps, per lamp per year	27 00
Incandescent electric lamps, 40 C. P., underground service	31 20
Incandescent electric lamps, 40 C. P., overhead service	19 80
"White Way" luminous arc lamps, all-night underground service	84 60
"White Way" luminous arc lamps, half-night underground service	81 00
Electric arc lamps, old type, all-night underground service	72 00
Electric arc lamps, old type, half-night underground service	68 00
Electric arc lamps, old type, all-night overhead service	60 00
Incandescent electric ornamental lamps, 60 C. P. (owned and maintained by the city)	14 91
Incandescent electric ornamental cluster lamps, 60 and 80 C. P. (owned and maintained by the city), less current	7 32

Electric Current for Use in Public Buildings.

Without Free Renewal of Lamps.

For the first forty thousand (40,000) kilowatt hours per month, five cents (5c.) per kilowatt hour.

For all over forty thousand (40,000) kilowatt hours per month, three and sixty-six one-hundredths cents (3.66) per kilowatt hour.

For a consumption of fifteen thousand (15,000) kilowatt hours in any one month at any one location, three cents (3c.) per kilowatt hour.

ILLUMINATING GAS FOR STREET LAMPS AND USE IN PUBLIC BUILDINGS.

$6.75 per lamp per year or at the rate of 67½ cents per 1,000 cubic feet.

75 cents per 1,000 cubic feet for all gas consumed in the public buildings.

$7.50 for service connections from the gas main pipes to such additional lamps installed during the term of the contract.

The gas and naphtha lamps are operated by the American Street Lighting Company under contract, which agreement expires November 30, 1916. The gas is supplied by the Consolidated Gas Electric Light and Power Company (at the rate of 67½ cents per 1,000 cubic feet) under contract, same expiring March 1, 1915. The street electric arc lamps were operated by the Consolidated Gas Electric Light and Power Company at the above prices up to November 1, 1914. Under a new contract, dated November 25, 1914, the cost for this service is cheaper than heretofore—effecting a saving to the city of about $5,000 for the term of one year. It will be noted that the lamps owned by the city are from 60 to 80 candle-power capacity and are operated and maintained by the city at cheaper rates than are the lamps of 40 candle-power type, which are owned, operated and maintained by the Gas and Electric Company under contract.

EXTENSION OF STREET LIGHTING SERVICE.

Owing to the many streets opened and paved and the completion of the Fallsway and the Key Highway during the present year there were installed and placed in service a total of 2,320 additional lamps of all classes as follows:

Incandescent mantle gas lamps	1,249
Incandescent mantle naphtha lamps	118
Electric arc and incandescent lamps	956

The above tabulation includes the "White Way" lamps installed on the Fallsway, from Centre street to Mt. Royal ave-

nue; Mt. Royal avenue, from Guilford avenue to Cathedral street; Light street, from Lee street to Ostend street; Baltimore street, from Broadway to Fremont avenue; Broadway, from Baltimore street to Fleet street; Key Highway, from Light street to Montgomery street; Saratoga street, from Charles street to Howard street; Liberty street, from Pratt street to Saratoga street; South street, from Pratt street to Baltimore street; Commerce street, from Baltimore street to Pratt street; Charles street, from Baltimore street to German street; Gay street, from Lexington street to Aisquith street; Market Place, from Baltimore street to Pratt street; Calvert street, from Pratt street to Baltimore street; center of Pratt street (on safety isles), from Light street to West Falls avenue. All of the above, excepting the lamps on the Fallsway, from Centre street to Chase street, and those on the Key Highway, were installed in substitution for gas and old type electric arc lamps.

A system of 78 ornamental electric tungsten lamps was installed on North Charles street, from North avenue to Twenty-ninth street; 60 lamps on North Charles street, from University Parkway to city limits; 22 on Oak street, from University Parkway to Mallory lane; 15 on North Washington street, from North avenue to the entrance to Clifton Park; 16 lamps surrounding the Eastern Female High School at Broadway and North avenue. This work, except laying the conduits on North Charles street, Oak street and University Parkway, was performed by our own force and is operated and maintained by the Department.

Street Lamps Transferred.

In order to enable the Sewerage Commission, the Commissioners for Opening Streets, the City Engineer and the Paving Commission to extend their operations in various sections of the city and Annex, and for the purpose of improving the

lighting conditions generally, there were 472 gas, 140 electric and 13 naphtha lamps transferred from old to new locations.

Substitution of One Illuminant for Another.

The extension of the gas mains in a number of the recently improved streets located in the outlying sections have enabled us to place 64 gas lamps in substitution for the same number of naphtha and incandescent electric lamps; and by the installation of the electric supply lines to points within the city where naphtha lamps were in service and no gas mains existed we substituted three electric incandescent lamps for naphtha lamps. Owing to the subway conduit system being extended by the Electrical Commission during the past twelve months 64 arc lamps and 127 incandescent electric lamps (40 candle-power) were transferred from the overhead to the underground service, thus greatly improving the lighting system in the several streets affected by these changes at considerably reduced cost for maintenance.

Lamps Placed in Alleys.

For the better protection of the public and also from a sanitary standpoint, 162 incandescent 40 candle-power electric lamps were placed in alleys in various sections of the city. In passing, I may say that there has been a great demand made upon the Department for lights in alleys and courts because of theft and nuisances committed, and in most all cases we found upon investigation that the circumstances justified the expenditure for lighting these dark localities. We are pleased to state that the Board of Estimates recognized the necessity for the proper lighting of these alleys and has granted the number of additional lamps asked for by the Department for the year 1915 for this purpose.

Playgrounds Lighted.

As usual, the public playgrounds have been lighted from spring to early fall of the year in the several sections of the city, thereby contributing to the pleasure and convenience of the public using these grounds.

Erection and Repair of Street Signs.

The changing of street names, opening of new streets and the discarding of old and worn out street-name signs made necessary the erection of 712 new street signs of all descriptions, thus designating the names of a very large number of streets located in all sections of the city. One hundred and ninety-three bracket and house street-name signs and fixtures were repaired and painted. The "Hospital Zone" signs were also repaired whenever necessary and kept in proper condition.

Wrecked Lamps.

There were 65 gas lamps and 6 electric lamps, 132 gas lamp globes and 28 electric lamp globes wrecked or broken during the year, due to carts, trucks or heavy wagons having run into these lamps, caused in the main by reckless and indifferent driving. These lamp posts and fixtures were repaired and replaced, as the extent and condition of the damage required, by the contractor without cost to the city; the new lamps and fixtures, under the terms of the contract, becoming the property of the city. The contractor, however, is permitted to collect from the person or persons who may have been responsible for the damage the actual expenses involved.

Street Lamp Repairs and Alterations.

Street lamps, lanterns and fixtures, which through wear and tear became damaged, have been repaired and alterations made in this equipment from time to time during the year as follows:

Boulevard globes changed to ornamental	269
Miner globes changed to boulevard	1,140
Miner globes changed to ornamental	73
Lamp domes replaced	181
Lamp draft tubes replaced	104
Lantern repairs	212
Lamp post repairs	301
Telegraph, telephone and trolley poles transferred for new street lamps	31
Pavement repairs at base of lamp posts	243

Lamps of All Classes Discontinued.

On account of the substitution of one kind of lamp for a different one, in order to suit conditions existing at various points throughout the city, and for the accommodation of street improvements in certain sections, 392 gas lamps, 186 electric arc lamps, 18 incandescent electric lamps and 64 naphtha lamps were discontinued from the service during the year.

Unused Lamp Posts.

Two hundred and sixty-four unused gas lamp posts were taken up from different sections of the city during the year. These lamp posts are the property of the city and when the necessity arises for the installation of additional street gas lamps throughout the city they will again be used, thus relieving the city from an additional expense for new posts.

Inspection of the Street Lighting Service.

The District Superintendents are required to patrol their respective districts every night for the purpose of inspecting

the condition of the lighting system and the work of the contractors, and all street lamps found defective are reported to the Department and the prescribed penalty is imposed in such cases.

Collecting and Testing Coal Oil.

As required by ordinance, samples of illuminating oil have been collected on week days from the retail merchants of the city and tested in the laboratory of the Department. During the year 4,877 samples were collected for inspection and test, and in no case was the oil tested found to be below the legal standard and flashing point of 120 degrees Fahrenheit.

Gas and Electric Meter Readings.

All gas and electric meters used in all city departments and public places, as required by ordinance, were read by the District Superintendents each month during the year, amounting to 8,569 individual readings. Thus it is made possible to determine the exact and correct quantity of gas and electric current consumed by the city during the year. These readings are recorded each month and are used also to verify the correctness of the bills of the Gas and Electric Company for the supply of gas and electricity.

Painting Lamp Posts.

During the year 4,555 lamp posts of all kinds were painted, of which number 968 were "White Way" ornamental posts and 467 were small electric ornamental posts. In addition to the above posts, which were painted by the Department's force, 3,120 posts were painted at the expense of the several contractors.

Work Planned for the Year 1915.

Much work, in addition to the regular Departmental routine, has been planned for the coming year, involving the installation

of about 1,200 gas lamps, 405 electric arc lamps, 275 incandescent 40 candle-power electric lamps and 25 naphtha lamps, and the transfer or rearrangement of a large number of existing lamps of all classes.

Contracts Awarded.

Contracts were awarded by the Board of Awards, as follows:

To the Consolidated Gas Electric Light and Power Company for the supply of gas to the city street lamps and for gas used in municipal buildings; also for the maintenance of arc and incandescent electric lamps and for the supply of electric current to public buildings.

To Messrs. Eugene I. Rosenfeld & Company, Incorporated, for the permanent illumination of the City Hall dome.

To the National Electric Company for the special illumination of the Shot Tower during the Canners' Convention and the Star-Spangled Banner Celebration.

To the Elmer P. Morris Iron Works, Incorporated, for the supply of large and small "Baltimore Design" iron lamp posts.

Special Illumination.

Of the many interesting displays in connection with the Star-Spangled Banner Centennial Celebration was the electrical illumination of the City Hall dome. The rich architectural lines of the dome were brought out after nightfall by the brilliancy from 3,763 Mazda lamps of various candle-power, greatly adding to the attractiveness of the city during the celebration and was highly commented on by the visitors and the public generally. The wiring is permanent and the city proposes to use this feature at all times when there are conventions or celebrations.

In connection with the above, I beg to refer also to the electrical illumination which was constructed on the top or coping of the Shot Tower in the form of an ornamental electric crown. Two thousand five hundred white and colored lights were used to produce the crown effect. The rays from a strong searchlight were directed on our national flag, which was suspended from a staff in the center of the crown, and this, together with the scheme of colored lights studded in the crown, was effective and inspiring. The wiring in this case was only temporary and was removed by the contractor shortly after the closing of the celebration.

COMPARATIVE STATEMENT OF TOTAL LAMPS IN SERVICE, 1913-1914.

Total number of lamps (all kinds) in service, Dec. 31, 1914..	15,452
Total number of lamps (all kinds) in service, Jan. 1, 1914....	13,789
Total net increase during the year 1914.....	1,663

SUMMARY OF THE AMOUNT OF APPROPRIATIONS, EXPENDITURES AND BALANCES FOR THE YEAR ENDED DECEMBER 31, 1914.

ACCOUNT.	Appropriation and Credits.	Expenditures to Dec. 31, 1914.	Balances, Dec. 31, 1914.
Salaries.....	$16,996 00	$16,151 75	$844 25
Gas lighting and maintenance...	212,124 85	209,884 19	2,240 66
Electric lighting and maintenance.	285,285 44	284,905 66	379 78
Naphtha lighting and maintenance	9,504 00	8,806 58	697 42
Incidentals.....	300 00	300 00	.....
Extension of "White Way".....	20,000 00	20,000 00	.....
Total.....	$544,210 29	$540,048 18	$4,162 11

RECEIPTS FOR THE YEAR 1914.

General revenue	$208 85
Recovered damages	7 05
Sale old material	85 71
Total	$293 61

CONCLUSION.

In conclusion, I beg to thank your Honor most sincerely for my appointment to this office and to assure you that it will be my earnest endeavor to perform the work of the Department in such manner as will merit your approval and contribute to the success of your administration.

To my assistants in the Department I desire to express my appreciation for the faithful services rendered at all times.

Respectfully submitted,

WILLIAM MOHR,
Superintendent of Lamps and Lighting.

SUMMARY OF STREET LAMPS.

(Operated and maintained under contracts.)

Gas Lamps.

Plain "Miner" Type.

In service January 1, 1914	5,244		
New lamps installed during the year	.....		
		5,244	
Discontinued during the year	93		
Changed from plain to boulevard type	1,140		
Changed from plain to ornamental type	73		
		1,306	
			3,938

Boulevard Type.

In service January 1, 1914	3,324		
New lamps installed during the year	1,163		
Changed from plain to boulevard type	1,140		
		5,627	
Discontinued during the year	100		
Changed from boulevard to ornamental type	269		
		369	
			5,258

Ornamental Type.

In service January 1, 1914	470		
New lamps installed during the year	76		
Changed from plain to ornamental type	73		
Changed from boulevard to ornamental type	269		
		888	
Discontinued during the year		44	
			844

Five-Light Clusters (Ornamental Globes).

In service January 1, 1914	30		
New lamps installed during the year	10		
		40	
Discontinued during the year		.....	
			40

Four-Light Clusters (Plain Globes).

In service January 1, 1914	251		
New lamps installed during the year			
		251	
Discontinued during the year		155	
			96
Gas lamps (all types) in service December 31, 1914			10,176

NAPHTHA LAMPS.

In service January 1, 1914	324		
New lamps installed during the year	118		
		442	
Discontinued during the year		64	
			378
Naphtha lamps in service December 31, 1914			10,554

ELECTRIC ARC LAMPS.

Plain Type (Overhead All-Night Service).

In service January 1, 1914	1,574		
New lamps installed during the year	103		
		1,677	
Transferred from overhead to underground service	64		
Discontinued during the year	94		
		158	
			1,519

Plain Type (Underground All-Night Service).

In service January 1, 1914	806		
New lamps installed during the year	111		
Transferred from overhead to underground service	64		
		981	
Changed from plain to "White Way" type	156		
Discontinued during the year	77		
		233	
			748

Plain Type (Underground Half-Night Service).

In service January 1, 1914	84		
New lamps installed during the year			
		84	
Changed from plain to "White Way" type	26		
Discontinued during the year	12		
		38	
			46

"White Way" Type (Underground All-Night Service).

In service January 1, 1914	260		
New lamps installed during the year	277		
Changed from plain to "White Way" type	142		
Changed from half-night to all-night service	4		
		683	
Changed from all-night to half-night service	1		
Discontinued during the year	2		
		3	
			680

"White Way" Type (Underground Half-Night Service).

In service January 1, 1914	156		
New lamps installed during the year	95		
Changed from plain to "White Way" type	40		
Changed from all-night to half-night service	1		
		292	
Changed from half-night to all-night service	4		
Discontinued during the year	1		
		5	
			287
Electric arc lamps (all types) in service Dec. 31, 1914			3,280

INCANDESCENT ELECTRIC LAMPS, 40 C. P.

Plain Type (Overhead All-Night Service).

In service January 1, 1914	901		
New lamps installed during the year	140		
		1,041	
Transferred from overhead to underground service	129		
Discontinued during the year	18		
		147	
			894

INCANDESCENT ELECTRIC LAMPS, 40 C. P.

Plain Type (Underground All-Night Service).

In service January 1, 1914		
New lamps installed during the year	23	
Transferred from overhead to underground service	129	
	152	
Discontinued during the year		
		152
Incandescent electric lamps, 40 C. P., in service December 31, 1914		1,046
Total number of lamps (gas, naphtha, electric arcs and 40 C. P. incandescent electric lamps) operated under contracts, in service December 31, 1914		14,880

ORNAMENTAL INCANDESCENT ELECTRIC LAMPS.

(Operated and maintained by the Department.)

In service January 1, 1914		365
New lamps installed during the year as follows:		
Ostend Street Viaduct	8	
Lee Street Viaduct	8	
Charles street, from University Parkway to city limits	60	
Charles street, from North avenue to Twenty-ninth street	78	
Oak street, from University Parkway to Mallory lane	22	
Washington street, from North avenue to Clifton Park entrance	15	
Eastern Female High School, on adjacent streets	16	
		207
Ornamental incandescent electric lamps (operated by the Department) in service December 31, 1914		572
Total number of lamps (all types) in service January 1, 1915		15,452
Total number of lamps (all types) in service January 1, 1914		13,789
Total net gain for the year 1914		1,663

NUMBER AND COST OF STREET LAMPS—1879 TO 1914, INCLUSIVE.

Year.	Number of Gas Lamps.	Contract Price per Gas Lamp per Year.	Number of Naphtha or Gasoline Lamps.	Contract Price per Naphtha or Gasoline Lamp per Year.	Number of Overhead Electric Arc Lamps.	Contract Price per Overhead Electric Arc Lamp per Year.	Number of Plain Underground Electric Arc Lamps.	Contract Price per Plain Underground Electric Arc Lamp per Year.
1879	4847	$39.18	998	$29.79	.....	.....	.....	.....
1880	5161	40.05	1011	28.52	.....	.....	.....	.....
1881	5346	40.32	1028	29.24	4	On trial	.....	.....
1882	4847	39.58	1033	28.87	225	$255.50	.....	.....
1883	5056	35.72	1006	29.93	225	255.50	.....	.....
1884	5191	36.93	1043	28.92	243	255.50	.....	.....
1885	4935	32.65	1074	28.00	409	255.50	.....	.....
1886	5013	26.17	1042	30.02	476	255.50	.....	.....
1887	5277	27.40	841	38.99	531	182.50	.....	.....
1888	5697	31.46	1405	23.49	584	182.50	.....	.....
1889	5822	32.48	1388	21.91	603	182.50 146.00	.....	.....
1890	5742	32.17	1272	21.20	667	127.75	.....	.....
1891	5237	36.37	1158	26.50	965	127.75	.....	.....
1892	5375	37.34	1050	21.80	1030	127.75	.....	.....
1893	5569	37.86	1055	21.81	1035	127.75	.....	.....
1894	5794	36.86	1047	21.83	1039	127.75	.....	.....
1895	5790	37.32	897	24.84	1278	127.75	.....	.....
1896	5928	35.47	980	24.98	1338	127.75	.....	.....
1897	6043	34.04	1026	23.10	1355	127.75	.....	.....
1898	6235	32.50	1072	21.55	1369	127.75	.....	.....
1899	6232	31.60	1085	21.82	1391	127.75	.....	.....
1900	6136	32.50	1109	21.82	1394	99.92	.....	.....
1901	6153	21.40	1038	20.08	1516	99.92	.....	.....
1902	6495	21.40	1109	28.50	1565	99.92	.....	.....
1903	6631	21.40	1089	23.45	1603	99.92	.....	.....
1904	6670	20.25	1147	23.45	1599	99.92	.....	.....
1905	6663	16.25	1043	23.45	1726	67.49	.....	.....
1906	6931	16.25	915	27.50	1741	67.49	.....	.....
1907	7169	16.25	890	27.50	1797	67.49	.....	.....
1908	7199	18.10	989	25.00	2102	67.49	.....	.....
1909	7483	17.25	1128	26.00	2529	67.49	.....	.....
1910	7769	17.25	790	26.00	1013	60.25	1556	$75.00
1911	7773	17.25	404	24.00	1489	60.00	1116	74.00
1912	8493	17.00	368	24.00	1555	60.00	722 84	74.00 ..... 68.00‡
1913	9319	16.15	324	27.00	1574	60.00	806 84	74.00 .... 68.00‡
1914	10176	16.15	378	27.00	1519	60.00	748 46	74.00 68.00‡

‡Half-night lamps. †Underground. *Overhead.

NUMBER AND COST OF STREET LAMPS—1879 TO 1914, INCLUSIVE—*Cont.*

Number of Luminous "White Way" Electric Arc Lamps.	Contract Price per Luminous "White Way" Electric Arc Lamp per Year.	Number of 40 C. P. Incandescent Electric Lamps.	Contract Price per 40 C. P. Incandescent Electric Lamp per Year.	Number of U. G. 60 C. P. Incandescent Electric Lamps.	Average maintenance and operation cost for 60 C. P. U. G. Incandescent Electric Lamps.
		623	$20.00*		
202	$89.00			216	$16.00
		770	20.00*	60	9.15
154	81.00‡			32	18.00
260	89.00			216	14.75
		901	20.00*	60	7.13
				32	23.64
156	81.00‡			57	18.42
680	89.00	894	20.00*	512	14.91
287	81.00‡	152	36.00†	60	7.32

‡Half-night lamps. †Underground. *Overhead.

TOTAL COST OF STREET LIGHTING—1879 TO 1914, INCLUSIVE.

Year.	Gas.	Electric.	Naphtha.	Total.
1879	$151,338.53	.....	$22,432.00	$173,770.53
1880	165,662.39	.....	23,438.85	189,001.24
1881	223,210.13	.....	22,534.45	245,744.58
1882	200,264.55	$21,959.95	21,304.99	243,529.49
1883	189,338.92	57,487.50	21,999.19	268,825.61
1884	199,830.69	58,156.70	21,977.09	279,964.48
1885	169,928.87	78,575.00	21,241.52	269,745.39
1886	139,995.52	110,457.20	22,445.52	272,898.24
1887	151,347.27	107,087.80	25,982.38	284,417.45
1888	189,881.13	103,298.12	22,181.42	315,360.67
1889	200,332.04	98,593.10	19,073.38	317,998.52
1890	195,309.67	85,280.12	16,249.03	296,838.82
1891	201,250.41	102,783.60	19,791.35	323,825.36
1892	210,907.14	124,374.35	12,670.57	347,952.06
1893	223,860.38	121,658.49	12,936.48	358,455.35
1894	223,294.73	126,783.24	12,906.92	362,984.89
1895	225,256.66	141,694.26	13,088.14	380,039.06
1896	220,423.63	165,991.33	14,237.37	400,652.33
1897	215,505.77	172,420.22	13,750.88	401,676.87
1898	212,697.44	173,855.55	12,997.20	399,550.19
1899	207,287.17	175,098.95	13,371.25	395,757.37
1900	140,203.30	164,335.63	17,148.25	321,687.18
1901	140,110.02	144,135.93	17,775.85	302,021.80
1902	139,480.98	157,485.12	27,228.76	324,194.86
1903	137,208.45	158,548.28	28,084.38	323,841.11
1904	135,345.59	160,081.27	24,650.14	320,077.00
1905	119,163.61	152,718.28	25,957.30	297,839.19
1906	121,786.95	111,462.94	28,125.47	261,375.36
1907	119,452.37	121,692.07	23,340.00	264,484.44
1908	139,472.70	129,263.78	19,960.19	288,696.67
1909	145,452.18	152,938.66	25,653.60	323,744.44
1910	145,934.04	177,358.55	26,586.41	349,879.00
1911	154,790.96	188,647.53	12,097.28	355,535.77
1912	162,727.81	191,438.79	9,791.44	363,958.04
1913	179,414.75	258,110.72	8,088.23	445,613.70
1914	209,884.19	304,905.66	8,806.58	523,596.43

ANNUAL REPORT

OF THE

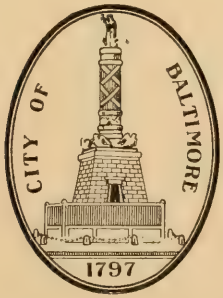
Superintendent of Public Buildings

TO THE

Mayor and City Council of Baltimore

FOR THE

FISCAL YEAR ENDING DECEMBER 31, 1914



BALTIMORE
MEYER & THALHEIMER
CITY PRINTER

1915

ANNUAL REPORT

OFFICE OF THE

SUPERINTENDENT OF PUBLIC BUILDINGS,

CITY HALL.

BALTIMORE, December 31, 1914.

To the Honorable the Mayor and City Council of Baltimore.

GENTLEMEN—I respectfully submit for your consideration my annual report, showing the work performed by this Department during the year ending December 31, 1914.

During the past year I have endeavored to place the several buildings under my supervision in the best possible condition, so far as the appropriation at my command would permit.

It requires no small degree of skill and maneuvering to insure complete satisfaction and at the same time keep within the appropriation.

The Department has five buildings to watch and keep in fine condition, and in those five buildings are housed nearly all of the active municipal departments, including the courts and the court clerks.

The wear and tear in offices and quarters like these are of a kind that requires constant attention and a persistent outlay of money to keep everything in first-rate order. The public expects the municipal buildings and the municipal rooms, together with their furnishings, to be maintained in a manner creditable to the city, and it is to this Department that the public looks to have this done.

The attention given to the physical condition of the buildings, plus the additions made by way of new and repaired furnishings, have resulted in putting the municipal property in better shape than it has been for years.

Respectfully submitted,

GEORGE T. AMES,

Superintendent of Public Buildings.

Annual Report

of the

Sewerage Commission

of the

City of Baltimore

1914

BALTIMORE
MEYER & THALHEIMER
CITY PRINTER

1915

SEWERAGE COMMISSION

OF THE

CITY OF BALTIMORE

AMERICAN BUILDING

BALTIMORE, December 31, 1914.

HON. JAMES H. PRESTON,
Mayor of Baltimore.

SIR:

In obedience to the requirement of Section 1, Chapter 349, Acts of the General Assembly of Maryland, 1904, that the Sewerage Commission shall annually make to the Mayor a report of its work, we have the honor to submit the following:

ACCOUNTS AUDITED.

The books, accounts and vouchers of the Commission were examined in detail by the Baltimore Audit Company, from the date of our last report to you, to the close of business December 31, 1914.

The Audit Company reports as follows:

"The books of the Commission have been kept in the usual efficient manner, and we find that the expenditures during the

past year, by comparison with the City Comptroller's accounts, are in agreement with your books."

EXPENDITURES, 1914.

Administrative Salaries	$27,654 88
Construction Salaries	229,391 00
Pumping Station Salaries	22,716 98
Disposal Plant Salaries	28,719 73
Cement Laboratory Salaries	6,822 50
Repairing and Cleaning Sewers Salaries	18,000 00
Pumping Station Expenses	11,587 78
Disposal Plant Expenses	6,362 47
Cement Laboratory Expenses	839 07
Repairing and Cleaning Sewers Expenses	314 69
Special Expenses	27,704 54
Construction	2,911,970 94
Expenses Star-Spangled Banner Celebration	1,016 50
Total	$3,293,101 08

CREDIT—

By amount allowed Sewerage Commission out of general tax levy to defray expenses of Municipal Parade, Star-Spangled Banner Celebration	1,016 50
Net total	$3,292,084 58

The items, Salaries and Expenses of the Pumping Station, Disposal Plant and Repairing and Cleaning Sewers aggregating $87,701.65, are maintenance expenses. As a large section of the City is being served by these operations, also the expenses of other City Departments materially reduced thereby, these expenses should not be considered in connection with the construction expenditures, and are, therefore, stated separately.

Contracts Let in 1914.

Storm-Water Contract No. 35, McCarthy & O'Herron....	$78,407 95
Storm-Water Contract No. 37, Ryan & Reilly Co.....	18,739 10
Sanitary Contract No. 125, Ryan & Reilly Co.....	83,020 50
Sanitary Contract No. 127, Ryan & Reilly Co.....	46,630 92
Sanitary Contract No. 129, McCarthy & O'Herron.....	67,851 00
Sanitary Contract No. 130, J. A. Bralley.....	2,521 58
Sanitary Contract No. 131, Carozza Bros. & Co.....	80,880 25
Sanitary Contract No. 132, Standard Contracting Co.....	3,970 96
Sanitary Contract No. 123, D. M. Andrew & Co.....	56,326 61
Storm-Water Contract No. 38, Jas. Ferry & Sons.....	76,595 25
Sanitary Contract No. 133, C. B. Clark.....	121,384 85
Storm-Water Contract No. 39, McCarthy & O'Herron....	18,886 25
Sanitary Contract No. 134, Smith & Ruggles.....	79,518 35
Sanitary Contract No. 135, Gallagher, Boyle & Bryan.....	102,280 66
Storm-Water Contract No. 40, McCarthy & O'Herron.....	39,238 70
Sanitary Contract No. 136, Merritt Hydraulics Co.....	1,488 00
Sanitary Contract No. 137, Carozza Bros. & Co.....	174,408 25
Contract No. 1, Sewer Pipe, Baltimore Clay Products Co..	7,166 58
Contract No. 2, Castings, Foran Foundry & Mfg. Co.....	7,190 60
Storm-Water Contract No. 41, Ryan & Reilly Co.....	77,395 18
Sanitary Contract No. 126, M. O'Herron & Son.....	41,514 25
Sanitary Contract No. 138, Ryan & Reilly Co.....	28,428 95
Sanitary Contract No. 139, Ryan & Reilly Co.....	120,866 64
Sanitary Contract No. 140, Ryan & Reilly Co.....	81,815 50
Contract No. 3, Lumber, N. W. James Lumber Co.....	4,437 50
Total.....	$1,420,964 38

Report of the Chief Engineer.

The Report of the Chief Engineer, giving in detail the work of his department, is submitted herewith.

Future Operations.

The approval by the voters at the election in November of the Ordinance providing $3,000,000 additional for sewerage work, will make possible the completion of sewers in those sections of the City that were built up at the time the last estimates were made.

The Commission's object has been, and is, to provide with proper sewers that portion of the City built up at the time the last loan was asked for. As regards those portions that were not included in that estimate, but may be built up in the near future, trunk sewers are, or will be, within easy reach, and it will only be necessary for the owners of such property to lay comparatively short lengths of lateral sewers to connect their property with the general system. In conformity with this policy it is intended to put under contract during 1915 all funds available for sewerage construction and push the work rapidly to completion.

The Enabling Act of 1904 provides that the Commission (Section 1) "Shall continue in office from year to year until the work of said Commission under this Act has been fully and finally completed in every respect," and (Section 8) "When its work under this Act has been fully and finally completed in every respect, and not before, the life of this Commission as originally appointed and as subsequently recruited by appointments to occasional vacancies, if any, shall come to an end." The Commission has never construed these provisions technically, but has interpreted them in the spirit of the Act, and believes that with the expenditures of the funds now available, the sewerage system will have reached such a state of practical completion that it can be transferred to that City Department which in the future may be entrusted with its operation and maintenance. The extension of sewers in outlying districts will continue as long as development in those sections progresses; but, as this development is at present unknown, the estimates

above referred to were made upon the only practical basis, viz., the then built-up sections of the City, the Commission believing that in proceeding upon this basis it complies with the terms of the Enabling Act and will have accomplished its work thereunder.

Accordingly, when the funds now available have been expended the Commission will be in a position to turn over to the proper City authorities a "completed" sewerage system, if the word "completed" be interpreted in the light of reason.

Respectfully,

CHARLES ENGLAND, *Chairman.*
JAMES H. PRESTON, *Ex-Officio.*
MORRIS WHITRIDGE,
IRA REMSEN,
WILLIAM B. KINES,
GUSTAV SIEGMUND,
THOMAS J. SHRYOCK,
Commissioners.

HARRY W. RODGERS, *Secretary.*

ANNUAL REPORT

OF THE

CHIEF ENGINEER

FOR THE YEAR 1914

BALTIMORE, December 31, 1914.

MR. CHARLES ENGLAND, *Chairman; and*
Gentlemen of the Sewerage Commission.

DEAR SIRS:

I have the honor to transmit to you a report covering the work done by the Engineering Department of the Commission, from January 1, 1914, to December 31, 1914.

Both the Construction and Operating Departments of the sewerage and drainage work have proceeded in a most satisfactory manner, resulting in drawing to a conclusion a number of large and interesting engineering problems, such as:

Completion of the 29-foot Jones Falls Diversion Tunnel under Guilford avenue, making a continuous underground passage for the Falls from Union Station to Baltimore street;

Completion of the Viaduct over the Falls and throwing open to traffic a new driveway from Mt. Royal avenue to Baltimore street. Although the approaches to the Fallsway on Eager street have not been thrown open to the public, the number of vehicles traveling over it daily from 8 A. M. to 5 P. M. already amounts to over 2,000, which traffic is withdrawn from Calvert street, St. Paul street and as far west as

Cathedral street, residents on these streets and the United Railways Company expressing their appreciation of the relief, being a concrete example of the value of this new driveway;

Completing the 12-foot Linwood Avenue Drain, at a cost of $285,000, to within 800 feet of the harbor, the outlet of this drain being held up on account of right of way. This drain will relieve from flooding a large area in the southeastern section of the City;

The practical completion of 28 Imhoff tanks at the Disposal Plant, with a capacity of 112,000 people.

In addition to these large pieces of construction, we have constructed 698,100 feet, or 132.2 miles, of sanitary sewers and storm-water drains, 2,415 manholes and 1,075 inlets in the beds of the streets and alleys filled with underground obstructions.

Our construction during the past year has been complicated by the Paving Commission's operations being so scattered throughout the City; their work also being of light character, allowing it to be pushed rapidly; while the sewer construction, in deep trenches among obstructions, is necessarily slow.

By diligent work on the part of all connected with the sewer work, I am pleased to state that we enabled the Paving Commission to proceed with their program without delay. The following of the permanent paving so closely after the filling of our trenches, being a very unusual procedure, necessitated strenuous efforts on our part to secure satisfactory backfilling in these deep trenches, which I am pleased to say is borne out by the very few settlements that have occurred.

Harbor Odors.

One of the far-reaching results of the sewer construction has been the eliminating of the odors from the harbor. From the letters received from the shipping people and those liv-

ing around the harbor, this has been satisfactorily accomplished.

As far back as last summer crabs have been seen in the basin as far up as the foot of Broadway.

Storm-Water Drains.

While the sanitary sewers have produced important results from a sanitary standpoint, the results accomplished by the construction of the storm-water drains, from the standpoint of improving the City, are fully as important, in the elimination of flooding and cross-gutters. Improved pavements could not be laid without their construction.

The last cold spell brought out in a concrete way the sanitary condition of Baltimore today, compared to the past, by the accumulation of ice in the gutters and at the mouths of alleys, singling out those who had failed to obey the Health Department's notice to connect up to the sewers; as ice accumulated on the sidewalks and gutters in front of these properties, while their neighbors were free of such nuisances.

Our program of progress, in preparing plans and specifications in advance, has been such that the work has been continuous. This program enabled us to be in a position to submit nearly half a million dollars' worth of work within seven days after the new loan was approved in November.

On the convening of the Legislature in January, 1914, it was considered advisable to ask for an additional $3,000,000 loan on account of the following reasons:

1. The new territory developed.
2. The discount on the bonds.
3. The Legislature forcing the Commission to construct the sewers in the alleys, regardless of whether it was the most economical or not.
4. Taking the maintenance of the sewerage system out of the construction account.

This $3,000,000 loan will allow us to continue and finish sewering and draining the present built-up portion of the city, as outlined in our request to the Legislature.

Sewage Pumping Station.

The Pumping Plant, including the building and pumps, is in a most satisfactory condition and giving results even better than we expected, both from the standpoint of operating cost and results. We are now pumping about 14,500,000 gallons per day. The new steam-driven press and the electrical hoisting machine are in operation, resulting in an increase in the removal of solids four times greater than was accomplished with hand raking. This effects a material saving in operating the pumps, in keeping the valves in order. The screenings are burned at the plant at very small cost.

Sewage Disposal Plant.

The extensions at the Disposal Plant will soon be completed, bringing the plant up to a capacity of 600,000 people. The plant is giving very satisfactory results and a revenue is being derived from the sale of the sludge without cost to the Commission. Since the middle of last summer, at which time we began selling the sludge, a demand has been created that is rapidly growing, and from present indications this should give a revenue in the neighborhood of $5,000 a year.

We are receiving at the Disposal Plant about 23,000,000 gallons of sewage per day, and I am pleased to say that the volume of sewage has increased to a point where the Outfall Sewer and Hydrolitic tanks are working under normal conditions. The odor has decreased to such an extent that we are receiving no complaints. We have passed through the period of getting this enormous plant into operation under abnormal conditions—for instance, a sewer designed to take care of 1,000,000 people would not be acting under normal conditions

with a few thousand houses connected, and not until a great many thousands had been connected up. It is through this period that we have successfully passed. I would say that there are approximately 55,000 houses connected to the sewerage system, and about 25,000 more ready for connection.

Our method of handling the sludge, by means of Hydrolitic tanks and Sludge-Digesting tanks, has given entirely satisfactory results. In extending the Disposal Plant, I deemed it desirable to make the extension for handling the sludge along the Imhoff tank principle, for several reasons, namely, comparison of cost and operation of Imhoff tanks on a large scale with the Hydrolitic tanks, as the Imhoff tank is considered an improvement in the method of handling the sludge, but has only been tested on a small scale. This puts us in the position of having at our plant all of the latest improvements in the treatment of sewage. There is a question as to the advantage of the Imhoff tank over the Hydrolitic tanks in handling sludge in the volume that is handled at our plant, and this will give us the opportunity of knowing first-handed the actual facts. We have therefore constructed 28 Imhoff tanks with a capacity of 4,000 persons per tank. There is very little difference in the cost of Imhoff tanks and Hydrolitic tanks on the scale we are constructing them at Back River.

In addition to completing the Disposal Plant, Pumping Station and the Jones Falls Improvement, we have constructed to date 597.4 miles of sewers and drains, 10,567 manholes and 4,801 inlets.

I am endeavoring to get all of the $3,000,000 loan under contract during the coming year.

Respectfully submitted,

CALVIN W. HENDRICK,
Chief Engineer.

Summary of Work Done.

Contracts Let During 1914.

Sanitary, 16, estimated value	$1,083,449 69
Storm water, 7, estimated value	298,351 93

Sanitary Sewers Constructed.

	During 1914.	Total to Jan. 1, 1915.
Main and lateral sewers, 8" diameter circular to 11' x 12' 3" horse-shoe shaped..	311,638.06	1,381,773.51
House connections	246,846.11	1,143,433.97
Total length, sanitary sewers	558,484.17	2,525,207.48
Manholes	1,815	7,645
Lampholes	147	703
Spurs	21,793	86,548

Storm Water Drains Constructed.

	During 1914.	Total to Jan. 1, 1915.
Main and lateral drains, 6" diameter, circular to 20' x 15' 6" horse-shoe shaped..	100,223.20	497,871.33
Inlet connections	27,544.20	128,608.90
Total length, storm water drains..	127,767.40	626,480.23
Inlets and catch-basins	1,075	4,801
Manholes and drop-wells	580	2,897
Lampholes	.....	12

Cement Tested During 1914.

Alpha	293,725 bags
Allentown	99,200 bags
Bath	1,996 bags
Dexter	76,380 bags
Edison	2,600 bags
Giant	87,400 bags
Lehigh	87,400 bags
Saylor's	7,830 bags
Security	152,524 bags
Tidewater	505,162 bags
Whitehall	148,766 bags
Total	1,418,466 bags

Total number of lots of cement tested, 1,761, of which four lots, representing 2,838 bags, were rejected.

ANNUAL REPORT

OF THE

TOPOGRAPHICAL SURVEY COMMISSION

To the Mayor and City Council of Baltimore for the Fiscal Year Ended December 31, 1914

BALTIMORE
MEYER & THALHEIMER
CITY PRINTER

1915

Mayor's Office,

Baltimore, February 26, 1915.

To the Honorable the Mayor and City Council of Baltimore.

Gentlemen—The Topographical Survey Commission respectfully begs to submit the following report of its Chief Engineer.

Very respectfully,

James H. Preston, *Mayor,*
James F. Thrift, *Comptroller,*
Richard Gwinn, *Register,*
Topographical Survey Commission.

REPORT OF THE

CHIEF ENGINEER

TO THE

TOPOGRAPHICAL SURVEY COMMISSION

FOR THE YEAR 1914

CITY OF BALTIMORE TOPOGRAPHICAL SURVEY

BALTIMORE, December 31, 1914.

To the

HON. JAMES H. PRESTON, *Mayor,*
HON. JAMES F. THRIFT, *Comptroller,*
HON. RICHARD GWINN, *Register,*
Topographical Survey Commission.

GENTLEMEN—The past year has, indeed, been a busy one with the Topographical Survey Commission. Besides its regular work to do with the development of the street system of the Annex, and special duties of a rather similar nature which have been delegated to it from time to time during the past few years, the Survey did, during the year 1914, revise the official topographical map of the city. This, in itself, was a task of considerable magnitude and will be treated briefly under its over-caption. The policy, however, to be adopted in this report is one of brevity, and for that reason it might be well to warn the reader that the relative merits of the various projects discussed should not be applied in proportion to the length given here to their treatment.

In the street plan projects, those of larger magnitude and of greater importance relative to the welfare of the city as a whole were, constructively, the thoroughfares improved by the State Roads Commission, including the all-important Hanover Street Bridge, and, in a planning way, the commercial streets, Key Highway, McComas street and St. Paul street, with Ellicott Driveway as the main route in the residential and park sections. A great many others of more or less importance are scattered over the entire city, but these are to serve primarily as connections between restricted sections.

A movement was inaugurated during the past year by the administration, relative to which this department is much concerned, for the collection of a permanent city exhibit to embrace many features of that broad subject of city planning. The matter is being managed by a committee appointed by His Honor, Mayor Preston, composed of the Chief Engineer of the Sewerage Commission, Commissioner of Health, Water Engineer and the Chief Engineer of the Topographical Survey Commission. A very creditable start has been made with a series of 18 panels, with about eight views each, depicting various phases of civic improvements. Three of the departments, namely, the Harbor Board, Water Department and Sewerage Commission, have also had prepared plaster models showing minutely their larger works, and it is the idea to include these with the pictures whenever the exhibit is sent away from Baltimore.

The subject is mentioned here because it is felt that such moves which help to show the results of civic improvements and which tend to educate the public as to the value of such works to a city is a worthy effort. Indeed, the more enlightened and progressive cities are now devoting much time and energy to such propagandist work. Chicago has probably gone much farther along this line than has any other American city and it has gone even to the extent of teaching in its public schools the elements embraced in city planning. The book used is entitled, "Wacker's Manual of the Plan of Chicago," edited by Mr. Walter D. Moody, and although its real object is to serve as a text-book it is, however, far from being an elementary guide for children. It not only gives the history of the city, together with its structure, but it endeavors to point out wherein mistakes and bad arrangements have occurred and what is suggested for their remedy, so that altogether the book is more apt to appeal to the grown person than to school children. It has long been deemed a good policy on the part of the city to make as clear as possible to its citizens the full scope

and intention of large public improvements, but the idea of actually teaching the younger generation the basic principles of city planning is a comparatively new one, but one in which there would certainly seem a deal of merit.

The development of the Street Plan in the Annex, which is the primary work of this department, progressed in a most satisfactory way during the past year. Further on will be given a list of streets for which plats for opening purposes were made, and from which it will be seen that decidedly the greater amount of such work was confined more to secondary streets than to thoroughfares. The Survey, for quite a number of years, has been diligently endeavoring to establish a system of what might be termed radial arteries, being for the most part broad diagonal highways intended to bind and connect all sections of the city into one conglomorate whole. This plan, for the most part, has met with gratifying success, there now remaining only a very few voids in an otherwise well traversed area. The move has not only born fruit by the value given by itself, but its influence has been such as to guide and direct the layout and growth of the intermediate streets. Therefore, each year the Street Plan becomes more nearly determined, and our trouble for enforcing the locations of streets in the Annex is a diminishing one.

Streets Improved by the State Roads Commission.

The nature of the work done by this department in conjunction with the State Roads Commission within the city limits has been explained and commented upon before in these reports, so that now only mention will be made of what was accomplished during the past year.

Frederick road, begun during the previous year, was, with only a minor exception, completed during 1914. The result is a well constructed thoroughfare from the city's western boundary to the heart of the town, at Bentalou street. But decidedly the best feature of the improvement is the new

bridge which carries the road over Gwynn's Falls, where, the exception just mentioned, the paving has not been entirely completed. Here, too, a special arrangement is proposed for the re-alinement of Brunswick street from the south to meet the new conditions.

At the eastern terminus of Frederick road, at Bentalou street, it is also proposed to repave this street as far as Fulton avenue, and to improve Hollins street from Fulton avenue to Fremont avenue, thereby completing the State road into the heart of the town.

The end of the year finds the Reisterstown road entirely completed throughout its extent within the city—that is, from just north of Fulton avenue to the northern city boundary. The whole project has been fully explained before in these reports, so that now the result itself can proclaim the improvement. It might, however, be worth while to point out that in order to make the improvement complete and adequate, that the short stretch between Fulton avenue and Elgin avenue should also be improved on the same width as the length lying just above it. Already the necessary plat and description have been prepared to condemn the land needed. The project is certainly an important one, in that it not only obliterates an awkward and unsightly off-set in a long, wide, very important thoroughfare, but it would also considerably improve conditions at the congested junction of Pennsylvania and Fulton avenues.

And still there is another, what may be called remnant, left in the Reisterstown road project. This is the westerly portion of the Pimlico Circle at the intersection of Park Heights avenue. Here, it will be recalled, the land required for the Circle was included in the condemnation of Green Spring Parkway—a proposed boulevard to run northerly from the intersection just mentioned. Unfortunately, this latter project is, owing to the excessive cost of acquiring the right-of-way and the general lack of co-operation on the part of the land

owners, to be abandoned and the proceedings withdrawn. The easterly half of the Pimlico Circle was surrendered in advance of condemnation in order that it might be constructed along with the improvement of Reisterstown road; but the owners of the westerly portion of the Circle did not, however, surrender their land, so that the present result is that the greater portion of the Circle is now improved, but the remaining portion is not only not constructed, but, owing to the proposed repealing of the ordinance for opening of Green Spring Parkway, there would be no method authorized for even its acquirement. It has been suggested that a new ordinance be passed concerning the land needed for the Circle.

Construction was also begun during the year on Belair road. The work was started at the boundary and is proceeding southwesterly as far as North avenue, which is its limit. At present the northern portion is completed a little farther south than the B. & O. Railroad Bridge. In this case, too, for additional comment, the reader is referred to previous reports of this department.

The Liberty Heights avenue improvement has been one replete with annoyances and obstructions. This was due to an injunction having been granted to a property owner along the route prohibiting a fill from overflowing the actual land condemned. To make the construction in any other manner would be very costly, and at present all work is held in abeyance, which is decidedly a bad state of affairs. There has been a deal of discussion, pro and con, concerning this condition, but the matter seems to rest principally upon whether or not the city should properly acquire more land than is actually needed for the roadbed itself.

The relocation of Light Street Bridge is, undoubtedly, the project of most importance to the city as a whole among those included within the list of improvements to be made by the State Roads Commission out of the funds allotted to Baltimore. And, in this connection, it is most gratifying to note that the

recommendations made on the part of the city have all been adopted and are now actually being put into effect. First, among such recommendations, was one proposed by His Honor, Mayor Preston, that the bridge instead of conforming to an alinement similiar to the old one, be made V shape so as to bring into communication the nearby Baltimore county waterfront and the backlying territory. This is to be done, and, further, the location selected is one conforming exactly to that recommended by this department. This whole subject has, however, been thoroughly thrashed out before, so that inasmuch as the matter has been decided to the complete satisfaction of the city further discussion may very properly be eliminated.

Closely affiliated with the new highway entrance to the city from the south is the improvement, on the part of the State Roads Commission, of Hanover, Liberty and Cathedral streets. These streets afford the connection from the heart of the city to the new bridge. Hanover street has been repaved from Cromwell street to Baltimore street; the same has been done on Liberty street from Baltimore street to Saratoga street; and likewise on Cathedral street from Saratoga street to Centre street.

New Maps of the City.

The wall map on the scale of 500 feet to one inch, begun by this department during 1913, was completed and published early during 1914. The scope of the work has been pointed out before in these reports, but now that it is a reality it is only deemed proper to call it to the attention of those who might be interested, with the brief statement that the map is a most useful one in its class and embodies considerably more information than has before appeared on a similar map of equal scale. In short, it is accurate, up to date, official and on the whole a very creditable representation.

There has also been completed during the past year the revision of the topographical atlas, with the omission of the contours. That feature was left out because in the undeveloped sections of the city the old map can supply such information in a very desirable form, while in the sections that have been changed the established elevations can be easily obtained from the official records. Should it, however, be deemed advisable at any time to incorporate the contours on the new map it will only be a straightforward task to do so.

The revised map, embodying all features of the old one, with the exception of the contours, has, besides, a great deal of added information. Its main feature of importance is that it shows clearly, distinctly and accurately each individual house and building within the city, in the older portion as well as in the Annex. The atlas will consist of thirty-four sheets, embracing one square mile of territory each, on mounted paper and durably and attractively bound in book form. Much space might well be given here to its merit, but it is thought better to let the work speak for itself at the time of its publication, very soon in the new year, when it is confidently predicted that the superiority of the map over any published by any large city of the world will be markedly apparent.

Concerning the Opening of Streets.

Under the above caption falls the main, primary and routine work of the department—such is the reason for the existence of the Topographical Survey Commission. Although it is true that at times large special work of one character or another, though usually closely allied to the street plan, is often delegated to the Survey, there nevertheless remains, year in and year out, the steady, progressing care, attention and work regarding the layout of new streets. Briefly compiled, the fol-

lowing is a list of the streets for which plats and descriptions were prepared during the past year:

Preliminary plat for the opening of Westwood avenue, from Poplar Grove street to Gertrude street.

Preliminary plat for the opening of Calvert street, from Thirty-first street to Thirty- third street.

Preliminary plat for the opening of Guilford avenue, from Thirty-first street to Thirty-third street.

Preliminary plat for the opening of Thirty-second street, from St. Paul street to Abell avenue.

Preliminary plat for the opening of Ellerslie avenue, from Gorsuch avenue to Thirty-fifth street, and Thirty-fifth street from Ellerslie avenue to Tingles lane.

Preliminary plat for the condemnation and opening of Franklin street, 60 feet wide, from Calverton road to Garrison lane.

Preliminary plat for the condemnation and opening of McComas street from Light street to Fort avenue, together with certain lands, improvements and riparian rights, lying south of said street.

Preliminary plat for the condemnation and opening of Broadway, from North avenue to Harford road.

Preliminary plat for the condemnation and opening of Mondawmin avenue, from Reisterstown road to Pulaski street.

Preliminary plat for the condemnation and opening of Pulaski street, from the northernmost side of Clifton avenue to the northwesternmost side of Mondawmin avenue.

Preliminary plat for the condemnation and opening of Key Highway, from Lawrence street to Woodall street, and Woodall street from Key Highway to McComas street (third section).

Preliminary plat for the condemnation and opening of Ellicott Driveway, from Edmondson avenue, through the property of the Western Cemetery Company, southerly to the property of the Mayor and City Council of Baltimore.

Preliminary plat for the condemnation of the land for the opening of Ellicott Driveway and connections therefrom between Edmondson avenue and Franklin road.

Preliminary plat for the opening of two alleys located southwest of Druid Hill avenue and northwest of Laurens street.

Preliminary plat for the opening of Gordon's lane, from Park Heights avenue to Reisterstown road, said lane when opened and widened to be called by the name of Quantico avenue.

Preliminary plat for the condemnation and widening of Woodberry avenue, from the Circle of Green Spring Parkway to Green Spring avenue.

Preliminary plat for the condemnation and widening of Garrison lane, from Edmondson avenue to Cemetery lane and Baltimore street.

Preliminary plat for the condemnation, opening and widening of Latrobe Park Terrace (formerly Oriole street).

Preliminary plat for the condemnation, opening and widening of Pennsylvania avenue, from Fulton avenue to a point 586.93 feet northeast thereof.

Preliminary plat for the condemnation, opening and widening of St. Paul street, from Saratoga street to Hamilton street.

Preliminary plat for the widening of St. Paul street, between Lexington street and Saratoga street.

Preliminary plat for the widening of Beech avenue, from Garrison avenue to Denison street.

Preliminary plat for the widening of Park Heights avenue, from Reisterstown road to the northern boundary of Baltimore city.

Preliminary plat for the condemnation and closing of certain portions of Calverton road lying between Franklin street and Edmondson avenue.

Preliminary plat for the condemnation and closing of certain portions of Calverton road lying between Edmondson avenue and Baltimore street.

Preliminary plat for the condemnation and closing of Thirty-fourth street, from Ellerslie avenue to Tinges lane, and of portions of Tinges lane lying between Thirty-fifth street and a point 410 feet southwest of Thirty-third street.

Preliminary plat for the closing of all that portion of Low street adjacent to the east side of Fallsway, lying southeasterly from the southeast side of all that portion of Low street connecting Front street with Fallsway.

Preliminary plat for the closing of a twenty-foot alley lying adjacent to the east side of Riverside avenue, between Warren avenue and Hamburg street.

Plat showing property to be acquired from Walbrook Land Corporation for the diversion of Bentalou street and addition to Easterwood Park.

Plat showing property to be acquired from Holy Cross Cemetery and the Mayor and City Council of Baltimore for a street to be laid out along the south line of Clifton Park, between Wolfe street and the Belair road.

Plat showing amendment to the general plan of streets adopted by Ordinance No. 120, approved December 3, 1898.

Concerning the Street Plan.

It will be noted from the above that the development of the street plan received quite an impetus, and altogether not all of the projects mentioned are actually to be accomplished, there does remain a very creditable bit which has either been carried to completion or else is assured of being carried out.

Of the most important lapses in the way of thoroughfare connections is the extension of Broadway from North avenue to Harford road. The importance and benefit of this proposed link in a system of border routes traversing the entire city has been commented on often and at length in previous reports of this department, and during the past few years a very pronounced effort was made to bring it about. Owing, however, to the very great expense of obtaining the right-of-way through the Holy Cross Cemetery and through the development to the north of this property, the move to open Broadway at this time has been abandoned. This we think rather unfortunate as the improvement is one which will grow in demand as time goes on, with the expense for opening ever increasing. With this exception, however, the entire border route seems assured.

It is gratifying to note that the continuous chain of boulevards joining the entire park system is now practically assured. Gwynn's Falls Parkway, between Druid Hill Park and Gwynn's Falls Park, about which there has been so much discussion, has been definitely approved and is now well advanced in its condemnation. A portion of it, between Garrison avenue and Denison street, is, indeed, already in process of construction, it having been provided for in a separate ordinance.

Thirty-third street, the parkway between Wyman Park and Montebello Park, has all been condemned and has been graded. The land required for The Alameda, a diversion from Thirty-third street to Clifton Park, has also been acquired and plans for its actual improvement are now well advanced. On the whole, the city deserves marked commendation for the fore-

sight, energy and expense it has contributed to the carrying out of this group of worthy enterprises.

Along this line, however, and apropos of the Pimlico Circle mentioned above, it is deemed proper to give here a few words of comment regarding street conditions in the immediate vicinity of the Circle, more especially with reference to the territory lying directly northward. Matters here are in quite a confused condition. While Green Spring Parkway in itself is not of such great importance as a thoroughfare, its actual opening would, nevertheless, have done much to bring arrangement out of what is now rather a chaotic state of affairs. This reference is more particularly to an adjustment or re-location of Woodberry avenue from Green Spring avenue to the Pimlico gate to Druid Hill Park. For, owing to the large fill required to construct the Circle, the resultant grade on Woodberry avenue is practically prohibitive for traffic. Should the opening of the parkway have been consummated, it would have served as an alternate route, with the addition of a lateral connection with the route to Woodberry and Hampden, but in the absence of this there now remains an almost impassable highway to serve as such an outlet. In other words, radical and prompt action is now needed to afford a proper relief to this very important link of travel.

The Circle is destined to be one of the most important junctions of traffic within the city. For, in addition to the highways now traversing it, two more are planned to radiate from the same intersection. These are Sequoia avenue, running northwesterly, and Dukeland street, running southwesterly. Furthermore, it is contemplated by the State Roads Commission to re-construct Park Heights avenue from the Circle to the northern boundary of the city. This latter project has been discussed quite a good deal during the past year, as well as during the year previous, but now it seems, owing to the expense and difficulty in obtaining the width required in the suggested widening, the proposal has sifted down to merely the improve-

ment of the thoroughfare on its present basis with the alteration by the removal of the car tracks to the centre of the roadway in a manner similar to that on Reisterstown road south of Liberty Heights avenue.

In the western section of the city probably the most important move in the development of the Street Plan was the dual project for the widening of Garrison lane and the closing of Calverton road between the limits of Edmondson avenue and Baltimore street. The merit of this proposal has been mentioned in previous reports, but for those interested it might be well to give here further explanation of our intention; this will be found in the following letter:

MAY 20, 1914.

MR. JAMES F. THRIFT, *Secretary,*
Honorable Board of Estimates, City Hall, City.

DEAR SIR—Sometime ago we prepared and forwarded to the Commissioners for Opening Streets the preliminary plat for the condemnation and closing of certain portions of Calverton road, between Edmondson avenue and Franklin street. So far the Commissioners have taken no action on this closing, and they report that they wish authority from the Board of Estimates before having the advertisement inserted and the ordinance drawn.

This closing is embraced in a general scheme of betterment for the section of the city, whereby Garrison lane is to be 80 feet, from Edmondson avenue to Baltimore street, and Franklin street is to be opened from Calverton road to Garrison lane. Both the advertisements for this widening and opening have appeared and we feel, to round out the project, that the closing of Calverton road should soon take place.

The general idea sought in this plan is to make one adequate thoroughfare, a widened Garrison lane, from Edmondson avenue to Baltimore street, in place of the two other poor connections, namely: Garrison lane and Calverton road now existing. The plans for the widening of Garrison lane call for the elimination of the present dangerous grade crossing at the P., B. & W. Railroad and with this idea caried out, we can see no use, and we believe we have the support of the property-owners throughout this section, of keeping open Calverton road and allowing to exist another bad and dangerous grade crossing of the railroad.

The closing of Calverton road above referred to is only a short stretch, but it will satisfy property conditions in this neighborhood and was worked out in connection with the scheme to widen and improve Garrison lane and to extend Franklin street. But, further, there is a move now on foot, and we have under preparation a plat for the closing of the entire road, from Edmondson avenue to Baltimore street, and we think it well at this time that the closing of the short portion of Calverton road should proceed at an early date.

We would, therefore, request the Honorable Board that if, in its opinion, this is a good move, to authorize the Commissioners for Opening Streets to proceed with the closing of Calverton road.

Very truly yours,

(Signed) Jos. W. Shirley,
Chief Engineer.

Another large project which was discussed at considerable length in the report for 1913 is the proposed widening of St. Paul street between Lexington street and Centre street. No further comment will be given here other than to say that the department, during the past year, prepared all the necessary plats and descriptions for the property embraced, and, at the present writing, the matter is in the hands of the City Council, from which indications now point to its approval at an early date.

Also, in South Baltimore, both McComas street and the Third Section of Key Highway are now in exactly a similar condition as is St. Paul street, with the addition, however, that the McComas street ordinance has been approved.

Blue Print Sub-Department.

This experiment in muncipal co-operation has proven a great success. Each succeeding year the output has increased to a marked extent; the service has been constantly bettered; the prices have been reduced far below those charged by private concerns, and, indeed, in practically every way the plant has more than fulfilled expectations.

During the past year there was added a coating machine by which the paper is sensitized with the chemical solution, so that now the entire operation of turning out prints is carried on under our own supervision; that is, with merely the white paper and chemicals as raw materials the whole process is gone through with until the actual print is obtained. The plant is now modern in every detail, is well systematized and on the whole it has resulted in a great saving to the city.

There was also installed during the year a "Photostat"—an automatic camera for the reproduction to any size and scale, within limits, of course, of original drawings. It, too, has been a great success, and although at first not as much work had been submitted as we had been led to believe the various departments would contribute, during the final months of the year, however, the increase was very satisfactory, and there now seems no doubt whatever but that its installation will be a profitable venture.

In conclusion I wish to express my appreciation for the energy and complete accord maintained in the department throughout the year, and especially of the capable manner in which the work on the new 200-foot map was handled by our Chief Draughtsman, Mr. L. B. Mather, his two assistants, Mr. James McCarthy and Mr. H. F. Krumm, and those especially engaged for the work. To these gentlemen we feel much credit is due for the satisfactory results obtained.

Very respectfully,

Joseph W. Shirley,
Chief Engineer.

ROSTER OF EMPLOYEES FOR YEAR 1914

Joseph W. Shirley.....*Chief Engineer*
Robert N. Hanna.....*Assistant Engineer*
Montague Blundon.....*Assistant Engineer*
L. Bryant Mather.....*Chief Draughtsman*
William B. Johnston.....*Draughtsman*
Charles Poske.....*Clerk*
Robb Gover.....*Draughtsman*
Edward J. Hecker.....*Transitman*
Andrew E. Warner.....*Transitman*
Cletus B. Kinsey.....*Rodman*
R. Norman Hanna.....*Rodman*
George B. Cooley.....*Blueprinter*
John T. Powell.....*Photostat Operator*
Miss F. Berry Osborne.....*Stenographer*
Fred Donovan.....*Messenger*

EMPLOYED AS DRAUGHTSMEN ON SPECIAL WORK OF PREPARING NEW 200-FOOT MAP OF THE CITY

James McCarthy.
H. Frank Krumm.
Frederick C. Stauffen.
William H. Siems.
William F. Walker.
Reuben Wisthoff.
William S. Graham.
Reuben A. Brawn.
Raymond C. Parlett.
Walter I. O'Neill.
Charles L. Maas.
Lawrence E. Collins.
Thomas M. Stuart.
Benjamin L. Smith.
T. Earle Cooper.
T. W. Hacker.
Herbert W. Chinn.
Frederick R. Stewart.
Norman B. Gwynn.
A. Craig Meikle.
J. Lowry Ingle, Jr.
Norman P. Stansbury.
Alexander H. Klitch.
Clarence V. Millholland.
W. Ernest Wood.
Kenneth G. Wilson.
Herbert L. Lee.
Lawrence E. Bauer.
Charles A. Mengers.
Eric E. Schmeid.
Edward J. Thomas.
Clarence E. Keefer.
Arthur D. Fulton.
J. Chester Crothers.
William N. Briscoe.
William R. G. Irwin.

COMPLIMENTS . . .

WALTER E. LEE

PRESIDENT WATER BOARD
AND WATER ENGINEER

ANNUAL REPORT OF THE

WATER BOARD

TO THE

MAYOR AND CITY COUNCIL OF BALTIMORE

FOR THE FISCAL YEAR ENDING DECEMBER 31

1914

BALTIMORE
MEYER & THALHEIMER
CITY PRINTER

REPORT OF THE WATER BOARD

1914

BALTIMORE, January 1, 1915.

To the Honorable Mayor and City Council of Baltimore.

GENTLEMEN—In compliance with the requirements of the City Charter, we submit for your consideration the annual report of the operations of the Water Department for the year 1914.

There were for the year two appropriations from Water Department receipts, viz.: Salaries $107,000 and expenses $569,793.32, which was increased by $149,406.77 received for materials delivered from stock to special appropriations and from sales of old materials.

There were five appropriations from the tax levy, viz.: Work in advance of improved paving $170,000, which was increased from our expense appropriation $85,000; improvements around Lake Ashburton $4,250; 30-inch water main in Riggs avenue $23,235, which was increased from our expense appropriation $15,000; upper service connections to feed high territory $11,400, and pitometer survey for underground leaks $15,000.

In addition to the above, this Department worked under appropriations from the tax levy, being transfers from the unexpended balances from the 1913 appropriations, viz.: Cleaning mains in advance of filtration $14,598.53, repairs to pumping stations $27,722.11, and auxiliary pumping station at Lake Ashburton $10,500.

There were three appropriations from the 1958 Water Loan, viz.: New electrically operated pumping station $50,000, extensions water system under the Act $2,000,000, which was increased by sales of old materials, etc., $2,162.66, and Salaries-Filtration and Gunpowder Supply Improvement Divisions $106,680. In addition to the above appropriations from the 1958 Loan, this Department worked under the following appropriations, being unexpended balances from 1913 appropriations, viz.: New pump, etc., Mount Royal Pumping Station $30,512.76, and construction of Lake Ashburton $5,048.43.

The appropriations and expenditures from them were as follows:

EXPENSE (Department Receipts).

Appropriation	$569,793 32	
Material delivered from stock to special appropriations and sales of old materials	149,406 77	
		$719,200 09
Expenditures	620,743 06	
Transferred to special appropriations	100,000 00	
Meters	2,009 02	
		722,752 08
Overexpended by authority Board of Estimates		$3,551 99

SALARIES (Department Receipts).

Appropriation	$107,000 00
Expenditures	101,645 92
Balance	$5,354 08

WORK IN ADVANCE OF IMPROVED PAVING (Tax Levy).

Appropriation	$170,000 00	
Transferred from Expense Account	85,000 00	
		$255,000 00
Expenditures		255,000 00

IMPROVEMENTS AROUND LAKE ASHBURTON (Tax Levy).

Appropriation	$4,250 00
Expenditures	0 00

30-INCH MAIN, RIGGS AVENUE (Tax Levy).

Appropriation	$23,235 00	
Transferred from Expense Account	15,000 00	
		$38,235 00
Expenditures		38,235 00

UPPER SERVICE CONNECTIONS TO FEED HIGH TERRITORY (Tax Levy).

Appropriation	$11,400 00
Expenditures	0 00

PITOMETER SURVEY FOR UNDERGROUND LEAKS (Tax Levy).

Appropriation	$15,000 00
Expenditures	14,830 26
Balance	$169 74

CLEANING MAINS IN ADVANCE OF FILTRATION (Tax Levy).

Appropriation	$14,598 53
Expenditures	363 58
Balance	$14,234 95

REPAIRS TO PUMPING STATIONS (Tax Levy).

Appropriation	$27,722 11
Expenditures	3 759 59
Balance	$23,962 52

AUXILIARY PUMPING STATION, LAKE ASHBURTON (Tax Levy).

Appropriation	$10,500 00
Expenditures	0 00

NEW ELECTRICALLY OPERATED PUMPING STATION, UPPER SERVICE (1958 Loan).

Appropriation	$50,000 00
Expenditures	0 00

EXTENSION WATER SYSTEM UNDER THE ACT (1958 Loan).

Appropriation	$2,000,000 00	
Sale of old materials	2,162 66	
		$2,002,162 66
Expenditures		1,311,360 50
Balance		$690,802 16

SALARIES, FILTRATION AND GUNPOWDER SUPPLY IMPROVEMENT DIVISIONS (1958 Loan).

Appropriation	$106,680 00
Expenditures	71,935 33
Balance	$34,744 67

NEW PUMP, ETC., MT. ROYAL PUMPING STATION (1958 Loan).

Appropriation	$30,512 76	
Sales of old material	25 44	
		$30,538 20
Expenditures		21,710 18
Balance		$8,828 02

CONSTRUCTION OF RESERVOIR, LAKE ASHBURTON (1958 Loan).

Appropriation	$5,048 43
Expenditures	0 00

The balances from the appropriations taken from the Department receipts are returned to the general treasury. The balances from the appropriations from the tax levy with the exception of that of pitometer survey for underground leaks are carried into 1915 for completing the work for which the appropriations were made. Of the appropriations from the 1958 Loan, the unexpended balances two, viz.: New pump, etc., Mount Royal Pumping Station and construction reservoir Lake Ashburton are carried into 1915, and the unexpended balances from the remainder of the appropriations from this loan revert to the loan funds and will be applied to the completion of the work already started, and the future appropriations for the general improvements of the water supply.

The total receipts of the Department and the disbursements are shown on the following tables:

RECEIPTS.

Amount received from water rents	$851,993 31	
Less returned	1,854 70	
		$850,138 61
Meter rents		559,202 39
Plumbing bills		72,152 19
Meter plumbing bills		5,815 04
Interest		2,928 82
Turn-offs		243 00
Vacancies		653 00
Markets		333 00
Pitometer Survey		561 00
Sales of old material, rents, etc.		8,778 30
		$1,500,805 35

DISBURSEMENTS.

Water Engineer's Department:		
Expenses	$471,336 29	
Meters	2,009 02	
Salaries	101,645 92	
Collector of Water Rents and Licenses:		
Expenses	$2,758 64	
Salaries	29,553 33	
Interest	398,333 33	
Sinking funds	22,193 25	
		1,027,829 78
Surplus to General Treasury		472,975 57

The exact amount of money spent from the 1958 Loan up to December 31, 1914, is shown by the following table:

Purchase of land	$468,690 23
Furniture and fixtures	1,207 74
Rent	5,169 84
Expert services	37,881 66
Inspection	2,011 44
Road No. 1	53,153 90
Sluice gates	19,952 00
Automobiles and supplies	9,702 39
Work done on new dam	462,168 44
Work done on railroad	10,000 00
Legal and witness services	5,835 00
Pay rolls	230,567 16
Board	5,933 78
Filters, basins and grading	315,223 34
Supplies for survey corps	6,455 33
Lumber and mill work	9,095 04
Employees expenses	4,056 51
Hauling	3,809 11
Drawing materials and surveying instruments	7,065 04
Castings	1,295 74
Moving Brodie House	1,164 40
Valves	27,862 19
Work at Montebello	7,781 52
Extra work	17,870 33
Bridge No. 1	68,516 21
Bridge No. 2	114,841 70
Filtered water reservoirs	144,825 57
Steel pipe conduit	151,084 63
Railroad, etc.	1,116 57
Head House pumping station	95,620 72
Cast-iron pipe, etc.	45,673 60
Right-of-way	4,813 24
Relaying and laying tracks	3,342 61
Disbursements from stock	50,387 38
Incidentals	54,360 76
Venturi meter tube	4,800 00
Use of locomotive	3,235 02
Treasurer of Baltimore County	20,000 00
Salaries, Filtration and G. S. I. Divisions	142,102 41
Steel work	1,507 74
Road No. 3	37,765 79
Phone service	518 20
Advertising	609 78
Medical services	136 50
Trees	860 32
Distribution mains	173,143 69
Appraising property	980 00
Stenographic services	587 35
Consulting Engineer	1,250 00

Providence road		$7,262 84
Insurance		334 64
Testing cement		805 39
Electric power equipment for filter plant		495 00
Lime mixer		1,028 50
Superstructure of buildings		40,243 14
Team hire		3,131 32
Road surfacing		12,063 17
Pumping machinery		678 40
Filter equipment		38,845 80
Road metal		7,086 09
		$2,948,006 21
Lime, etc.	$18,720 28	
Harford Avenue mains	7,837 00	
Seventh Street main	38,350 86	
New pumps, etc., Mt. Royal Pumping Station	191,097 42	
Completion of Lake Ashburton	175,401 97	
Concrete pipes	1,776 00	
		433,183 53
		$3,381,189 74

On March 25, 1914, Mr. Ezra B. Whitman tendered his resignation as Water Engineer and President of the Water Board, which became effective May 1, 1914.

His Honor the Mayor instructed Mr. Robert L. Clemmitt, Assistant Water Engineer, to assume the duties of the Water Engineer and President of the Water Board, under the title of Acting Water Engineer.

Mr. Whitman was retained as Consulting Engineer, to supervise the completion of the improvements to the Gunpowder Supply and the Filtration Plant under the 1958 Loan.

The work in charge of the various divisions of the Department has been carried on in the usual manner, no change having been made in the organization of the Department, and the details of the work performed are shown in the reports of the various division heads and the Consulting Engineer. Especial attention is directed to the report on the Gunpowder Improvements, the Filtration Plant and the distribution mains connecting the new work with the existing city distribution system.

The Water Board takes pleasure in reporting that all the division heads and employees of the Department have performed their duties in a satisfactory manner.

Respectfully submitted,

ROBERT L. CLEMMITT, *Acting President.*
RICHARD BERNARD, JOHN STERKEL,
TELFAIR W. MARRIOTT, CHARLES W. JONES,
Water Board of Baltimore City.

REPORT OF
EZRA B. WHITMAN, CONSULTING ENGINEER
ON THE
Enlargement and Improvement of the Water Supply of Baltimore City.

MR. R. L. CLEMMITT, *Acting President of Water Board.*

DEAR SIR—I beg to submit the following report in connection with the enlargement and improvement of the water supply of Baltimore city.

The organization for carrying on this work is divided into two divisions. The Gunpowder Supply Improvement Division has charge of the construction of the new impounding reservoir, bridges, roads, conduits and other appurtenant works, both in the county and in the city.

The Filtration Division has charge of the main pumping station for raising the entire water supply to the Filtration Plant, the Filtration Plant and appurtenant works, as well as the New Upper Service Pumping Station in Druid Hill Park.

FILTRATION DIVISION.

In the Filtration Division ten contracts had been prepared and let previous to January 1, 1914. Of these ten contracts, one of them, Contract No. 9, was completed during 1913. This contract was the one for building a railroad from the site of the Filtration Plant to connect with the tracks of the United Railways and Electric Company in Harford road.

CONTRACTS COMPLETED DURING 1914.

The following contracts were completed during the year 1914:

Contract No. 4—Filtered Water Reservoirs.
Contract No. 12—Furnishing Sluice Gates.
Contract No. 13—Furnishing Valves.
Contract No. 14—Furnishing Cast-Iron Pipe.
Contract No. 21—For construction of Pumping Station, Head House, Aerator Gate House and Main Water Conduit.

Contract No. 4—This contract was awarded to C. W. Lane & Company, November 20, 1912, and was to have been completed on January 1, 1914. In the beginning there was some difficulty experienced in getting materials for concrete work. Then the spouting system of placing concrete gave a great deal of trouble and finally was practically abandoned. Much difficulty was encountered in fitting together the steel forms for the groined arches and these were finally abandoned. Then occurred the failure of a part of the groined roof, which is fully described in the Water Department Report for 1913. Further delays were occasioned by the necessity for the contractor to move parts of his plant so as to get out of the way of other contractors and the work was not completed until the end of the year instead of at the beginning of the year.

Contract No. 12—This contract for furnishing the sluice gates was awarded to the Coffin Valve Company and was orginally included in the specifications for Contract No. 11. The bids on these original specifications, however, were rejected and the work divided into a number of contracts, thereby saving the city approximately $325,000 in the cost of Filtration Plant. Practically all the sluice gates were furnished by the end of 1914.

Contract No. 13—This contract for furnishing the gate valves was awarded to the Columbian Iron Works of Chattanooga, Tenn., on July 2, 1913, and was originally included in the specifications for Contract No. 11, the bids on which were rejected. All the valves coming under the contract were furnished before the end of 1914 and the majority of them were placed in the work under the readvertised Contract No. 11.

Contract No. 14—This contract for furnishing the cast-iron pipe and specials was awarded to the Glamorgan Pipe and Foundry Company of Lynchburg, Va., on June 25, 1913, and was also originally included in the specifications for Contract No. 11, the bids on which were rejected. The special castings which were built into the concrete work of the Filtration Plant were set in place by the contractor under Contract No. 11, while the majority of the pipe work and the setting of the valves was done by the contractor for the Filter Equipment under Contract No. 22. All the pipe for this work had been furnished before the end of 1914.

Contract No. 21—This contract for building the Head House, Pumping Station and Connecting Conduit was awarded to the Elkan-Tufts Construction Company of Baltimore, Md., on September 3, 1913. This contract was one of the most intricate connected with the entire work of the Filtration Plant. The difficulties of having

several contractors working on immediately adjoining work was well exemplified in carrying out this contract and there were several disputes as to which contractor should be allowed to occupy the adjoining ground and also in connection with the rights of the different contractors to dispose of their excavated material. The work on this contract, however, was as a whole well done and was completed before the end of the year 1914.

Contracts Let Previous to 1914 and Uncompleted.

The following contracts were let during the year 1913 and were not completed at the end of 1914:

Contract No. 11—Filters, Basins and Grading.
Contract No. 19—For Pumping Machinery.
Contract No. 20—For Electrical Equipment.

Contract No. 11—The plans and specifications for this contract originally included the coagulating basins, mixing basins and a complete filtration plant, the wash water building and all incidental equipment excepting the superstructures, as described on page 45, etc., of the 1913 report. The original bids were rejected and the work was divided into a number of contracts; when Contract No. 11 was readvertised, it included the necessary excavation and concrete work for the filters, wash water building, mixing basins and coagulating basins, and the setting of all iron castings, valves and sluice gates. This contract was awarded on June 11, 1913, to Claiborne, Johnston and Company and the Stewart-Jones Company, and the work was eventually taken over entirely by Claiborne, Johnston and Company. This work was practically completed by the end of 1914 with the exception of the work on the coagulating basins and mixing basins adjacent to the Head House, and a considerable amount of grading around the entire plant.

It was realized when Contract No. 11 was originally advertised to include practically the complete Filtration Plant, that in having one contractor to hold responsible for all parts of the work there would be fewer difficulties and less friction in getting the work done than would be the case where the work was divided; the division of the original contract into a number of smaller contracts greatly increased the difficulties of the engineering force and there were a number of occasions where the interests of the various contractors employed on the work conflicted. As a whole, however, the work progressed smoothly and the work on the new Contract No. 11 has been carefully and thoroughly done.

Contract No. 19—This contract was awarded to the Southwark Foundry and Machine Company of Philadelphia, Pa., on September 17, 1913, and included the main pumps to lift the water from the Loch Raven Conduit to the Filtration Plant and the wash water pumps which were originally included in Contract No. 11 as part of the filter equipment. By the end of 1914, the traveling crane in the pumping station, which was also a part of this contract, had been erected and the 30,000,000 gallon pump had been put in place. All the other pumps had been manufactured and were ready for installation.

Contract No. 20—This contract included the motors, transformers, wiring and other electrical equipment necessary for the operation of the main pumps and the various devices for use in the Filtration Plant, and was let to the Westinghouse Electric and Manufacturing Company of Pittsburgh, Pa., on September 17, 1913. The motors and transformers had all been manufactured at the factory before the end of 1914 and were ready to be put in place as soon as the superstructure of the pumping station had been completed so as to protect this equipment from the weather.

Contracts Let During 1914 and Uncompleted.

Plans and specifications for the following contracts were completed during the year 1914 and bids were received upon the same:

Contract No. 22—For Filter Equipment.

Contract No. 23—For Superstructures.

Contract No. 27—For Heating Apparatus.

Contract No. 29—For Upper Service Pumping Station Building in Druid Hill Park.

Contract No. 30—For Pumping Machinery, Upper Service Pumping Station.

Contract No. 31—For the Electrical Power Equipment for the Upper Service Pumping Station.

Contract No. 22—This contract was originally included in rejected Contract No. 11, and was awarded to the American Water Softener Company of Philadelphia, Pa., on March 6, 1914. This contract includes the placing of all the cast-iron pipe and valves in the filter galleries, Head House and Wash Water Building, and all other miscellaneous cast-iron pipe in connection with the Filtration Plant; the furnishing and placing of the filter strainer system and the sand and gravel which was placed in the filter units, the filter rate controllers, loss of head gauges and other miscellaneous gauges placed in the Filter Building; the furnishing and placing of the

chemical controlling devices and the equipment for handling the chemicals in the Head House. By the end of the year 1914, practically all the piping had been placed in the filters and under the filters and practically all of the strainer system was in place.

This contract included parts of the Filtration Plant upon which patents were claimed and was so drawn that the contractors assumed responsibility for all patent litigation.

The two points that were involved upon which patent claims were based were the negative head patent of the New York Continental Jewell Filtration Company and the central control patents of Mr. Ira Jewell of Chicago. Arrangements were made in the plans to ventilate the system of underdrains by means of cast-iron pipe, so that it would be impossible to secure a negative head below the strainer system of the filters. The negative head patents, however, were being litigated in connection with the Filtration Plant in Harrisburg, Pa., and when the decision was rendered by the Federal Court of Appeals in favor of the City of Harrisburg, and against the New York Continental Jewell Filtration Company, it was decided to omit the ventilating pipes connected to the strainer system. The central control claims of Mr. Ira Jewell were being litigated in connection with the Minneapolis Filtration Plant and it was decided to omit the operating tables, which Mr. Jewell claimed infringed his patents, until a decision was reached in this Minneapolis case.

Contract No. 23—This contract for the superstructures was awarded to the Consolidated Engineering Company of Baltimore, Md., on June 24, 1914. This contract includes the superstructures for the Pumping Station, the Aerator Gate House, the Head House, the house over the center passage between the Head House and the Filtration Plant, the Filter Buildings, the Wash Water Buildings and the Inlet and Outlet Gate Houses of the Filtered Water Reservoirs, and the machinery for handling the chemicals in the Head House and other miscellaneous machinery throughout the plant.

The artistic features of the design of these superstructures were started by Mr. William J. Fizone. His untimely death, however, occurred before the plans were completed and Messrs. Emory and Nussear were called in to complete this work. No attempt was made at elaborate ornamentation, although no effort was spared to secure a group of buildings that would be pleasing from an aesthetic point of view. The buildings are all of red colonial brick of local manufacture and all the roofs are of green tile, while the trimmings are of buff terra cotta. The style of architecture em-

ployed is Spanish and the results obtained by the completed buildings are both pleasing and artistic. By the end of 1914 the Pumping Station was structurally completed and the Head House was structurally completed, with the exception of the roof. The Filter Building had the greater portion of the brick work completed and part of the concrete roofing was in place. The Aerator Gate House was structurally completed, except the placing of the roof.

Contract No. 27—This contract for the furnishing of the heating apparatus was awarded to the Enterprise Steam and Hot Water Heating Company, Baltimore, Md., on November 25, 1914. This contract included three complete installations. One was installed in the basement of the Wash Water Building and was for the purpose of heating that building and the filter buildings. It is not necessary to keep the filter buildings heated to a high temperature, but it is only necessary to furnish sufficient heat to prevent freezing in the coldest weather. A second plant was installed in the basement of the Head House and heats the Head House, Pumping Station and Center Passage. The third heating plant was installed at the Upper Service Pumping Station in Druid Hill Park. By the end of 1914 the boilers had been erected in the Head House and considerable piping was in place and many of the radiators had been delivered on the site of the work.

Contract No. 29—This contract for building the Upper Service Pumping Station in Druid Hill Park was awarded to the D. M. Andrews Company of Baltimore, Md., on November 25, 1914. The plans for this building were modified from the original drawing to suit the Park Board and the building is constructed of a buff brick with green tile roof. The only work done before the end of the year was the beginning of the excavation work.

The construction of this Upper Service Pumping Station was made necessary for two reasons. The Old Upper Service Pumping Station, just north of Druid Lake, in Druid Hill Park, takes its suction from either Hampden Reservoir or Druid Lake and the new scheme of taking the water from the Gunpowder River and abandoning the Jones Falls supply contemplates the abandonment of both Hampden Reservoir and Druid Lake as regular sources of supply. All the filtered water will be kept stored in two covered reservoirs, one of which will be the covered filtered water reservoir at the Filtration Plant, and the other one will be the Upper Service Reservoir located in Druid Hill Park near the Reisterstown road entrance to Druid Hill Park. This reservoir at the present time is a circular open reservoir but plans have been prepared for cover-

ing it as soon as the money is available. The new pumping station has been built adjacent to this High Service Reservoir and will pump the water from this covered reservoir to the upper service stand pipes in West Arlington and Roland Park.

The second reason for building this pumping station is that the consumption on the two upper services has grown to such an extent that the old pumping station north of Druid Lake has not sufficient pumping capacity to supply the demands on these two upper services, especially in the summer time. So rather than enlarge the existing pumping station it was decided to build a new pumping station adjacent to the High Service Reservoir. The location of the pumping station at this point will also make the pumping more economical as the elevation of the water in the High Service Reservoir is 350 feet, while the elevation of the water in Druid Lake or Hampden Reservoir is only 217 feet A. M. T. Therefore, it will not be necessary to pump against so great a head at the new pumping station as was necessary at the old pumping station.

Contract No. 30—This contract for the furnishing of the pumping machinery at the Upper Service Pumping Station was opened on December 30, 1915, and R. D. Wood & Company of Philadelphia, Pa., were found to the lowest bidders. By locating this Upper Service Pumping Station so as to take suction from the High Service Reservoir instead of from Druid Lake, the head to be pumped against was so reduced that it was found that centrifugal pumps, operated by electrical machinery, could be used for this service. The alternative to building an electrically operated centrifugal pumping station adjacent to the High Service Reservoir was the building of a steam driven reciprocating pumping station located near the Western Maryland Railroad on Liberty Heights avenue. A careful investigation showed that the electrically operated station would eventually be cheaper as the first cost of the machinery and the buildings required is very much less than would be the first cost required for building the steam pumping station, and the fact that the electrically operated station can be operated by one man while the steam station would require at least three men, make the interest charges and operating costs as a whole for the electrically operated pumping station in Druid Hill Park cheaper than the same costs for the contemplated steam station. Another factor favoring the electrically operated station adjacent to the High Service Reservoir is that the suction line will be very short, while, if the plant had been located adjacent to the Western Maryland Railroad, there would have been a long suction

line with variations in suction head due to frictional resistance depending upon the number of pumps that were being operated.

Unfortunately the water level in the West Arlington Stand Pipe is 100 feet higher than the water level in the Roland Park Stand Pipe and this made it impossible to make all pumps alike, so that they can be used on either one of the two services. The static head in pumping to the West Arlington Stand Pipe is 200 feet, while the static head in pumping to the Roland Park Stand Pipe is 100 feet. Two of the three pumps pumping to the Roland Park Stand Pipe are so arranged in the pumping station that two pumps can be operated together and produce the same effect as a double stage pump, thereby pumping to the West Arlington Stand Pipe.

Contract No. 31—This contract is for the electrical power equipment for the Upper Service Pumping Station and was opened on December 30. It was found that the Westinghouse Electric and Manufacturing Company was the low bidder. Current for operating this power equipment was obtained at the same price as the current operating the main pumping station at the Filtration Plant.

The following is a tabulation of all bids received during the year 1914. All bids received previous to this time were tabulated in the 1913 report of the Department.

Contract No. 1—New Loch Raven Dam.

The contractors for this work were the King-Ganey Contracting Company of New York City, and the work done during the years 1912 and 1913 has been described in the annual reports of the Department for these two years. In the 1913 report there is also a description of the dam and another description of this dam is given in the final report of Mr. P. A. Beatty, Division Engineer in charge of the work, who succeeded Mr. Emory Sudler when he resigned in August, 1914.

The full data as to the costs and quantities for this contract are given in Mr. Beatty's report and need not be repeated here further than to state that the total cost of the dam was $527,425.16.

This cost is made up as follows:

Paid on contract estimates	$474,016 97
Paid on force accounts	16,644 80
Paid for material furnished by the city	3,729 41
Paid to contractor for rail	179 00
Cost of spur track built by the city	12,818 21
Cost of engineering and inspection	18,187 62
Cost of maintenance	1,449 15
Cost of transportation	400 00
Total	$527,425 16

The work of completing the dam progressed during the year 1914 without any unforeseen or unusual difficulties until it was necessary to close the relief openings. Owing to the fact that the five 60-inch sluice gates called for in the original plans for this dam were omitted, the conditions in closing these final relief openings were different from what they would have been had the contract plans been carried out. With these five 60-inch conduits through the bottom of the dam, it would have been a comparatively simple matter to open the sluice gates at the head of these conduits and to have drained the flow of the river through these conduits while the relief openings were being constructed. Instead of building the five 60-inch conduits through the dam, two 48-inch conduits, one at either end of the dam, were constructed. This did not provide sufficient water-way to carry away the natural flow of the stream without backing up the water to a considerable height behind the dam. It was, therefore, decided to close the west relief opening by force account and to leave the second relief opening to be closed by a separate contract at a later date. This was made necessary owing to the fact that the condemnation proceedings to acquire land which would be flooded back of the dam had not been completed and the city was not in possession of all the land which would be flooded by the final closing of both relief openings.

The method of closing the west relief opening by force account is fully described in Mr. Beatty's report, which also gives the quantities involved in this work and the total and unit costs. The work was completed on May 30, 1914.

The closing of the east relief opening was done under Contract No. 34, and could have been started immediately after the completion of the closing of the west relief opening. This, however, was not done owing to the fact that all the property acquired by the city had not been secured, as above explained. Owing to the dry weather during the summer and the small resulting stream flow, the conditions of the water supply became critical during the month of August and Mayor Preston directed that the relief opening be closed at the earliest possible date so as to provide a more ample water supply for the city. These directions were given on August 26 and the specifications were prepared, the contract advertised and let by September 17. The method and cost of doing this work is fully described in Mr. Beatty's report and the work was pushed with great rapidity so that it was completed on October 18, one day before the end of the twenty days' contract time. Both the engineers in direct charge of this work and the contractors are to be

commended for the speed with which this contract was pushed to completion.

Experience has shown that the quality of the water drawn from a reservoir varies with the depth from which it is taken below the surface. At certain seasons of the year algae growths occur in the top layers of the water and produce unpleasant taste and odors. These algae will not grow in the bottom layers of the water and it is possible by drawing the water from the bottom of a deep reservoir to secure a water practically free from the objectionable taste and odors which would occur in the top layers of the water in the same reservoir. It has also been found that toward the end of the summer the accumulation of organic matter on the bottom of the reservoir uses up all the dissolved oxygen in the bottom layers of the water in its decomposition and the bottom layers will then enter into a condition where the anaerobic decomposition of the organic matter will produce unpleasant taste and odors. In order to meet these conditions and secure the best water available from the reservoir, the intake has been so constructed that the water from the New Loch Raven Dam can be drawn from either the top, the intermediate or the bottom layers.

If the current with which the water enters the intake is sufficiently great, it will draw the water down from a considerable height above the point of intake. In order to decrease the velocity with which the water enters the intake so that in drawing off the bottom water the top layers will not be disturbed, a fan-shaped intake was constructed of reinforced concrete, the plan of which is shown on the accompanying drawing, No. 604-A-175. This work was done by day labor and is thoroughly described in Mr. Beatty's report, which also gives the cost of the work.

Contract No. 2. Substructure Bridge No. 1—This work was finished during 1913 and is described in the 1913 report and is also fully described in the report of Mr. Beatty, which gives the costs of the work.

Contract Nos. 3 and 5. Steel Pipe Contract and Venturi Meter—These contracts are described in the 1913 report and are very fully described in Mr. Beatty's report, published in this volume. The various difficulties encountered and how they were overcome are thoroughly covered by him.

Contract No. 6. Superstructure for Bridge No. 1—The work done under this contract is partially described in the 1913 annual report and is more fully described in Mr. Beatty's final report upon this work published in this volume. Although the contractor was sup-

posed to finish the work in November, 1913, the false work, a full description of which is given in Mr. Beatty's report, was not completed until February 15, 1914.

The construction of the traveler was completed on February 21 and the first steel was raised to the false work on February 27. The bridge was not finally completed until August, 1914. The method of construction of the false work adopted by the contractor was new for a bridge of this size, where the bridge consists of more than one span. The contractor encountered many difficulties which were not foreseen and the large losses suffered by the contractor in the construction of this bridge were largely due to the increased cost of the suspended false work over the estimate cost by the contractor of doing this work. If the ordinary false work built from the ground up had been used there is little doubt but that the contractor would have saved a great deal of money. His work, however, did demonstrate a thorough feasibility of constructing long spans on suspended false work and under certain conditions this method could be used to advantage. The difficulties encountered by the contractor are fully described in the report of Mr. P. A. Beatty upon this contract.

Contract No. 7. Road No. 1—This road is briefly described in the 1913 report and more fully described in Mr. Beatty's report in this volume. After this contract was let an agreement was entered into with the County Commissioners whereby the city built what is known as the Providence Cut-Off, the agreement being made that the city would increase the width of the roadway between Bridge No. 1 and this cut-off from 10 feet to 14 feet, and that the city would grade and pave this cut-off to the end of the city's property and that between the city's property line, and the end of the existing county road through Providence, the city would furnish the stone for building this connecting link while the county would do the grading and spread and roll the stone. This contract was also extended to place macadam on the Old Loch Raven Drive from the dam to the Valley road. The work was completed on the 15th of October and it was decided to wait until this macadam work had passed through the winter and then apply oil to the surface of the road, so that it will resist the auto traffic which is sure to take place on such beautiful a driveway as this roadway furnishes.

Contract No. 2¼. Road No. 3—This contract was briefly described in the 1913 report and is more fully described in Mr. Beatty's report published in this volume. Bids were received upon this roadway for building the road of either concrete or macadam and

it was intended to build the entire road of concrete. Owing to the fact, however, that there was a long delay in securing the right-of-way across the Jessop property, the concrete roadway was built only from the Jessop property line to the Dulaney Valley and Sweet Air Turnpike. The roadway across the Jessop property and between the Jessop property and Bridge No. 1 was built of macadam. After the right-of-way was secured it was desirable to complete this roadway at the earliest possible date so as to enable traffic to travel this roadway between the Dulaney Valley and Sweet Air Turnpike and Towson, as the old Dulaney Valley and Sweet Air Turnpike adjacent to the Gunpowder River would be flooded as the dam was filled after the closing of the last relief opening. It was, therefore, necessary to provide another outlet for this traffic, and the only possible outlet was by this new roadway.

The flow of the stream, however, was so low for the latter part of the year 1914 that it could be carried through the two 48-inch sluice gates and conduits provided to drain the dam, and it was not until January, 1915, that the water finally raised above the crest of the new dam, although the last relief opening was closed in October, 1914. The method of constructing this roadway and the cost of doing the work is fully described in Mr. Beatty's report.

Contract No. 32. Road No. 5—When it was decided to build Bridge No. 2, connecting Jarrettsville Pike with the Dulaney Valley and Towson Turnpike, it became necessary to build a roadway at either end of this new bridge. This roadway is known as Road No. 5 and it was decided to do the grading of this work by day labor. The heaviest part of the work was the making of the fill at the west end of the bridge, where 16,000 cubic yards of material was used for this purpose. Upon the completion of the grading of this work, the laying of the macadam on the newly graded work and on the River road from the Dulaney Valley and Towson Turnpike up to a point just west of the bridge, was carried out under Contract No. 32, for furnishing road metal. This work is more fully described in Mr. Beatty's report in this volume.

Contract No. 33. For Furnishing Road Metal—As already described under Contract No. 7, the city agreed to furnish the county with road metal for macadamizing the roadway from the end of the city's property to Providence and the city also agreed to furnish the contractor with road metal for completing Contract No. 24, from the east end of Bridge No. 1, to and across Jessop's property. This road metal was furnished under Contract No. 33.

Road No. 4—In order to complete the entire road system contemplated by the city, it will be necessary to build a roadway between the Dulaney Valley and Sweet Air Turnpike and the Jarrettsville Turnpike. This will enable the people traveling the Dulaney Valley and Sweet Air Turnpike to go to Towson by way of Bridge No. 1 or No. 2, and will also make it possible to get from the Dulaney Valley and Sweet Air Turnpike over to the Jarrettsville Turnpike at the lower end of these two roadways. The completion of this road will be the last link in providing one of the most beautiful automobile drives around Baltimore. The survey and plans and specifications for this road have been partially prepared, but the final location is held up awaiting the securing of rights-of-way for building this road.

Contracts Nos. 8, 10, 25 and 36—These contracts are for furnishing sluice gates and valves in connection with the new dam and the various conduits built by the Gunpowder Supply Improvement Division.

Contracts Nos. 15 and 16—Superstructure and substructure of Bridge No. 2. These two contracts are described in the 1913 report and are more fully described by Mr. Beatty, as given in this volume. The substructure for this work was completed early in 1914. The erection of the false work was begun on March 1, and the erection of the steel on April 21, 1914. There were no unusual features connected with the construction of this bridge, which is one of the finest highway bridges of this kind in this part of the country.

Work Done by Day Labor—In addition to the work done by day labor on the roads, there was further work which is was deemed advisable to do by this method rather than by contract. One of the most extensive pieces of work done in this way was the clearing of the land which was to be flooded by the new dam, and approximately 100 acres of land was cleared of trees at a cost of $139.37 per acre. The trees that were cut down were located in most inaccessible places bordering on the low lands of the Gunpowder and its branches, and it has been practically impossible to dispose of more than a small part of the lumber which was cleared by the cutting of the trees. These trees were scattered for a length of seven miles up and down the Gunpowder River and the clearing also extended some distance up the valleys of Petersons Run and Jessop's Run and along several other small streams.

The new roadways adjacent to the Gunpowder River are built upon steep hillsides and have numerous sharp curves and embankments, making dangerous places. In order to protect these danger-

ous places as much as possible, a heavy substantial fence built of blighted chestnut trees, 8 to 12 inches in diameter, was built along such portions of the roadway as were dangerous. These fences are very solid and substantial and are of attractive rustic appearance and add to the appearance of the driveway rather than detract from it as is so often the case with the ordinary fences built for the purpose of protecting dangerous places in roadways. On the River Drive, just north of the Loch Raven Station, the old wooden bridge over Mine Bank Run was replaced by a new reinforced concrete bridge at a total cost of $1,165.73.

Contract No. 17. Distribution Mains—This contract includes the 108-inch reinforced concrete conduit connecting the filtered water reservoirs with the existing Montebello-Clifton Tunnel, the 108-inch reinforced concrete conduit laid inside the old 144-inch Clifton-Montebello Tunnel as far as the Harford road, the 84-inch reinforced concrete conduit leading from the Harford road into Clifton Gate House inside the old tunnel and another 84-inch reinforced concrete conduit leading south along the Harford road, just inside of Clifton Park and connecting with the mains extension now being constructed under Contract No. 26. The greater part of this contract, as already described in the 1913 report, is constructed inside of the old Montebello-Clifton Tunnel, but one section of the 108-inch conduit about 800 feet long is laid in open trench between the filtered water reservoirs and the Montebello Gate House, while a section of the 84-inch conduit running parallel with the Harford road, inside Clifton Park, is also laid in open trench. The 84-inch pipe which leads to the Clifton Gate House terminates in a large steel receiver to which are connected through masonry conduits lined with steel, the 40-inch cast-iron mains at present used for distributing the water to the city from Lake Clifton. The details of this contract are more fully described in Mr. Beatty's report in this volume.

About 90 per cent. of the work was completed during the year 1914. This work should have been fully completed by the middle of October, but owing to the fact that dry weather had reduced the stream flow of the Gunpowder River to a point where it was less than the daily consumption of the city, it was necessary to conserve the water supply in every possible way and it was, therefore, impossible to drain the water from either Lake Clifton or Lake Montebello, which would have been necessary in order to work inside the tunnel.

There were also cases of extreme turbidity in the water flowing from Loch Raven and in order to keep from delivering this muddy water into the mains or from spending excessive amounts in clarifying it by the use of large quantities of alum, the water from the Gunpowder River was wasted over the dam while the clear water stored in Lakes Montebello and Clifton was used to supply the city. During such periods as this, it was also impossible to enter the tunnel to carry on the work of this contract and because of the extremely dry weather and also the extremely muddy condition of the stream in rainy weather, the completion of this contract has been delayed much beyond the original contract time.

Contract No. 26. Extension of Mains—The 84-inch pipe which was built parallel with the Harford road inside of Clifton Park, under Contract No. 17, will change to an 84-inch steel pipe and be through a tunnel under Harford avenue to the bed of Twenty-fifth street, in the bed of which street the 84-inch steel conduit will be laid in open trench to Taylor lane. This conduit will then turn south on Taylor lane and be carried to Twentieth street and Homewood avenue; the 84-inch steel pipe will end where a 48-inch cast-iron pipe will be laid from this point in the bed of Twenty-second street to Kennedy avenue and thence along Kennedy avenue to North avenue and south on Ensor street to meet with the middle service mains in Biddle and Eager streets. This line will be the main feeder from the Filtration Plant to the Middle Service District in the eastern part of the city. At Twentieth and Taylor streets a 60-inch line will also leave the 84-inch line and be carried across Twentieth street to Oak street and south on Oak street to connect with the Middle Service Line at North avenue and Oak street and also with the suction main feeding the pumps in Mount Royal Pumping Station. This 60-inch line across Twentieth street and Oak street will serve a two-fold purpose, the first being to supply the Middle Service Districts in the central and western parts of the city and the second being to augment the 48-inch suction line which at the present time connects the Mount Royal pumps to the Clifton Gate House.

The capacity of the existing 48-inch line is so small that when the two 17,000,000 gallon pumps in the Mount Royal Pumping Station are placed in operation the loss of head due to friction becomes so great that the pressure on the suction side of the pump is reduced by nearly 20 pounds. In the extension of the Mount Royal Pumping Station to provide for the needs of the city, it will be possible by the use of the new 60-inch main across Oak street

to install pumps in Mount Royal Pumping Station having a capacity of 90,000,000 gallons per day without having a friction loss in the suction main as great as this friction loss is under existing circumstances with the two 17,000,000 gallon pumps in operation. The contract for constructing this extension of mains was let in December, 1914, to the Whiting-Turner Construction Company, but no work of actual construction was done during the year.

Contract No. 37. Lining the Gunpowder Tunnel—In the report of Messrs. Freeman and Stearns on the improvement of the water supply of Baltimore city, it was recommended by these gentlemen that the water be carried from the new dam to the old Loch Raven-Montebello Tunnel by means of a new rock tunnel about 6,000 feet long, the connection to the old tunnel being made at a point about one mile from the old Loch Raven Gate House.

It was found upon investigation, however, that is would be possible to build a 10-foot steel conduit, built under Contract No. 3, which would connect with the old Loch Raven-Montebello Tunnel just west of the old Gate House. This old Loch Raven-Montebello Tunnel will be placed under a pressure of about 35 pounds per square inch and owing to the seamy character of the rock and the fact that the covering over the roof of this tunnel where it crossed under Mine Bank Run is much below the hydraulic gradient, it is necessary to line this tunnel with a practically impervious lining of sufficient strength to take the pressure due to the raising of the water behind the new dam. The cost of lining this tunnel plus the cost of the steel pipe conduit, built under Contract No. 3, will amount to approximate $300,000, while Messrs. Freeman and Stearns estimated that the cost of the new tunnel would be $450,000. That is, by the construction of this new conduit and the lining of the old tunnel, about $150,000 has been saved from the estimated cost of building a new tunnel.

It had been planned to complete the construction of the reinforced concrete conduit between the Filtered Water Reservoirs and Clifton Gate House by the middle of August, 1914, after which the construction was to have been commenced on the lining of the Loch Raven-Montebello Tunnel. As already described under Contract No. 17, the construction of the reinforced concrete conduit between the Filtered Water Reservoir and Lake Clifton was carried out largely in the old Montebello-Clifton Tunnel and it is necessary to shut the water out of this tunnel during the working intervals. In order to line the Loch Raven-Montebello Tunnel, it was also necessary to shut the water out of this tunnel and these two pieces

of work could not be carried on simultaneously as it would have interrupted the proper supplying of the city with water.

As was also described under Contract No. 17, the building of the conduit inside of the Montebello-Clifton Tunnel was greatly delayed owing to the low water and to muddy water in the Gunpowder River, and the starting of the Loch Raven-Montebello Tunnel was also delayed for as long as possible and still have the work done in time to supply the Filtration Plant when it is placed in operation, the contract for the lining of the tunnel being finally let on December 9, 1914, to C. B. Clark & Company.

The water is first carried through this tunnel until Lakes Montebello and Clifton are filled. These two lakes hold, between them, about 750,000,000 gallons of water and after these are filled the head gates at Loch Raven are closed and the Loch Raven-Montebello Tunnel is drained so that the contractor can go into the tunnel and work. This working period extends for five days, at the end of which time the contractor has to withdraw from the tunnel and allow the tunnel to take water again, filling Lakes Montebello and Clifton, these two lakes having been used to supply the entire city with water during the time that the contractor was working in the tunnel. Owing to the fact that it was impossible to start this work until December, it was decided to line only such portions of the tunnel as would probably be leaky or dangerous from the water behind the dam as constructed at the present time. This portion consisted of about 500 feet of tunnel adjacent to Loch Raven and about 1,500 feet where the tunnel crosses under the valley of Mine Bank Run.

If the high dam should be built it will be necessary to line between 2,000 and 3,000 feet more of this tunnel, as the water will be raised 50 feet and for this additional distance the old tunnel line will not be able to take the increased pressure. It was decided to let the latter part of this work go until such time as it became necessary to raise the existing dam. It will be possible to get into this tunnel and line it at the time by filling Druid Lake and Lake Ashburton with filtered water and supply the city from these two reservoirs while the contractor enters the tunnel to line the 2,000 or 3,000 feet which will have to be lined. Druid Lake holds about 500,000,000 gallons of water, and Lake Ashburton holds about 350,000,000 gallons of water, and with these lakes filled it will be possible to supply the Middle Service with water from Druid Lake for a period of about five days and to supply the High and Upper Services from Lake Ashburton for a period of about five days, so

that with these two lakes available it will be possible to enter the Loch Raven-Montebello Tunnel for a working period of five days to complete the work of lining the tunnel that will become necessary when the crest of the present dam is raised to the proposed elevation of 237 A. M. T. A detailed description of the lining employed can be found in Mr. Beatty's report in this volume.

Respectfully submitted,

EZRA B. WHITMAN, *Consulting Engineer.*

REPORT OF ENGINEERING DIVISION

BALTIMORE, December 31, 1914.

MR. ROBERT L. CLEMMITT, *Acting Water Engineer,*
Baltimore, Md.

DEAR SIR—I am transmitting a report of the work of the Engineering Division during the year ending December 31, 1914.

The major portion of our work was the preparation of plans for the extension of and improvement in the distribution system, installation of which was made by the Construction Division of this Department, in advance of improved paving by the Paving Commission, Commissioners for Opening Streets and the State Roads Commission. These plans covered 21.31 miles of pipe work in the proportion given in the following grouping by sizes:

89,803	feet of 6-inch pipe	79.8 per cent.
354	feet of 8-inch pipe	.31 per cent.
6,365	feet of 10-inch pipe	5.66 per cent.
1,464	feet of 12-inch pipe	1.30 per cent.
8,885	feet of 16-inch pipe	7.90 per cent.
88	feet of 20-inch pipe	.08 per cent.
5,437	feet of 36-inch pipe	4.83 per cent.
132	feet of 48-inch pipe	.12 per cent.
112,528	feet.	100.00 per cent.

With the completion of the Fallsway Viaduct, the Pennsylvania Railroad Company erected a new girder overhead bridge at Eager street. In order to harmonize the new bridge with the completed viaduct, it was decided by this Department to depress our 30-inch Middle Service main in Eager street, under the Pennsylvania Railroad Company's tracks at that point, rising again over the old masonry arch of the Jones Falls Bridge and on the east of the viaduct. Plans were thus prepared for this work and carried to successful completion.

Other large work under construction during the year was the 30-inch High Service Riggs Avenue main from Division and Wilson streets to Riggs avenue and Payson streets; the 16-inch High Service

main in Hilton street from Edmondson to Frederick avenue and which was planned and laid to better the supply in the southwestern portion of the city, and the 16-inch High Service main in Thirty-third street which was laid as a distribution for the northwestern part of the city. This 16-inch main was further extended northward in Hillen road and a 12-inch connection taken therefrom to the Wash Water Building of the new Filtration Plant, so as to give a higher pressure at this point than if a supply were brought through smaller existing mains from Harford avenue.

It was considered that with this volume of work, which yearly increases, in 1913 amounting to 18.42 miles of pipe and in 1914 to 21.31 miles, it would be economical for the Water Department to investigate the possibilities of mechanical excavation for our pipe lines in the territory which has and will continue to be opened in the next few years and where the character of excavation permits.

Arrangements were made with the Construction Division to this end and a trenching excavator was borrowed on trial for securing what might be considered average costs per cubic yard including direct charges, interest on investment and amortization.

The results of this test on but 2,000 feet of pipe was entirely satisfactory, the cost of excavating amounting to $0.16 per cubic yard. On these costs it was decided, therefore, to recommend that the Water Department purchase a trenching machine, justified not only on the very low cost which it could be obtained, but also on the fact that the greatest part of the new installation within the next three or four years would occur in the northeastern and northwestern sections of the city and in which there is little or no existing underground structures and which would, therefore, furnish an admirable place in which to operate a trenching excavator.

In order to determine the effective depth to which lead could be compressed in the caulking of water pipe joints, research work was initiated at the Municipal Laboratory. The results of these tests showed that lead, like other engineering materials, has a distinct characteristic curve. From this curve can be found the greatest possible compression, which never exceeds 2½ inches from the face of the bell, before the compressive molecular resistance of the lead itself equals or is greater than the tensile strength of the cast-iron in the sides of the pipe bells. When such latter is the case, there immediately follows a bursting of the pipe bell.

Recommendations were made, in order to secure uniform caulking of all pipe joints, to eliminate leaks after the laying of improved paving and aside from the economy in the time of labor

saved per joint, that the Water Department purchase and install as part of their regular equipment for the construction of water mains, air compressors and pneumatic hammers operating under a long stroke and a moderate working pressure of 40 pounds per square inch.

In the spring of 1914, when assisting the Municipal Laboratory in the preparation of specifications for the purchase of anthracite and bituminous coal used by all city departments, it was apparent that the method of awarding contracts for bituminous coal on the basis of the heating value in B. t. u. per pound of coal as named by the contractor was unsatisfactory, giving considerable trouble in the operation of all pumping stations.

It was decided after considerable analyses and the study of conditions as they surround the coal bids, in pumping stations especially, that awards be made on the cost of generating 1,000 pounds of dry saturated steam from and at 212 degrees Fahrenheit; the boiler pressure, draft pressure and rate of consumption of steam being held constant on the test boiler at each plant during all trials. The Municipal Laboratory adopted this suggestion of the Water Department and the result of awarding coal on the cost of furnishing 1,000 pounds of the final product of the boiler, namely, steam, was entirely different than if award had been made on the heating value of the coal alone.

In regard to our annual purchases of engineering materials and supplies, amounting to about $256,000, it was found advisable to revise all of our specifications on such contracts as we make, especially putting under technical requirements some materials which had formerly been purchased in the open market, without reference to quality, except only in a superficial way, as by specifying brand names, etc.

The specifications on brass service fittings is a good example of the revision of the specifications along technical lines. With the letting of bids under specifications for these fittings, the Water Department this year effected a saving of $1,000 over the price of the successful bidder for this same class of goods in 1913, and it has been remarked that these brass service fittings specifications are of the best of their kind in the country.

Galvanized wrought-iron pipe was for the first time this year put under specifications, for it was found by examinations which were made by the Engineering Division, through the Municipal Laboratory, that the pipe which we had been receiving from time to time on purchases in the open market, was coated with lead and

not zinc, the Water Department paying a price which was sufficient to insure it getting the more durable zinc coating.

Lead lined wrought-iron pipe specifications were revised to make the qualities which we insist upon more definite, as there was an opportunity under the old specifications of either wrought-iron or mild steel being furnished us. Alternate bids were asked for on lead lined wrought-iron pipe, one bid calling for prices when the lead lined pipe is furnished with a galvanized or zinc coating, the alternate bid calling for prices when the lead lined wrought-iron pipe is furnished with lead coating. These alternate bids thus enable the Water Department to judge of the economy in the difference in the bid price as influenced by the difference in the character of the two outside pipe coatings.

In 1908, the Water Department adopted the standards for cast-iron pipe recommended by the American Water Works Association, but until 1914, our specifications had never been thoroughly revised to meet the new requirements. Our present cast-iron pipe specifications entirely conform with the American Water Works Association specifications in respect to size, weight, quality of iron, method of casting, cleaning and inspection, coating, hydrostatic testing, transverse testing, and weighing for the conputation of bills.

Our brick specifications have been rewritten to secure the quality of arch and paving brick which we require, specifying the usual absorption test. From the small quantity of bricks which we purchase yearly it would seem that if the City Departments that have use for bricks, namely: the Water Department, Baltimore Sewerage Commission, City Engineer and Electrical Commission, could buy under a common specification, issuing directly under the Board of Awards, and which specifications would be approved by each department concerned, that a very much lower price could be secured than that which either of the separate departments pay under their individual contracts.

This same is true of our lumber contract. In the Water Department, the value of the contract price amounts to about $3,500, and while we have continually revised them from year to year to meet the new classifications adopted by the Baltimore Lumber Exchange, it would follow that if the City Engineer, Electrical Commission and other departments using timber, even for trench sheeting, should purchase together under a common contract and the grade of lumber approved by all departments buying such, we could each effect a considerable saving.

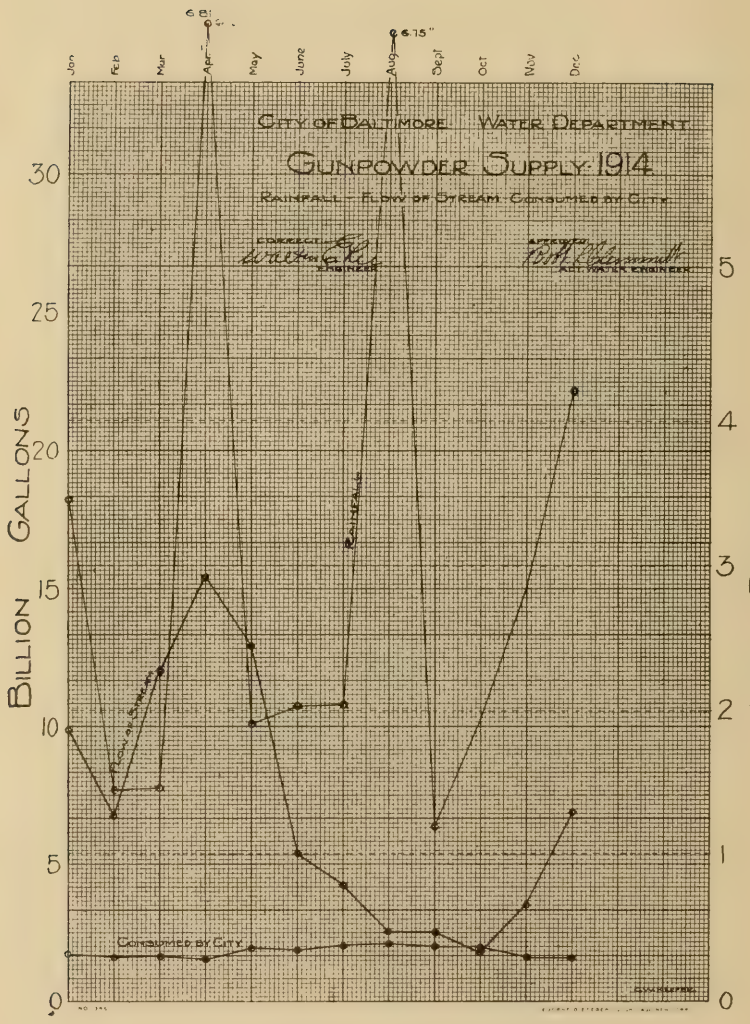
Our contract on lubricating oils is the largest of any City Department, amounting to about $3,200. These specifications are very specific on the technical constants which measure the quality of the oil, and for this reason they have removed all objections raised against the first specifications issued by the city.

The specifications for pig lead of which this Department purchases annually about $19,000 worth, were revised following the discovery of new facts during the testing of specimen cylinders on the Riehle Testing Machine at the Municipal Laboratory. In these tests it was found that the load imposed upon the cylinders itself was not a true measure of the compressibility of the lead, but that the rate of loading was in itself a factor which determined the rearrangement of the molecular structure. I also recommended that the Water Department purchase an automobile truck equipped with labor-saving devices for loading and unloading pipe, as well as a dump body for sand, lead, cordwood, etc., and apply this on our own hauling, abolishing all contracts of this nature.

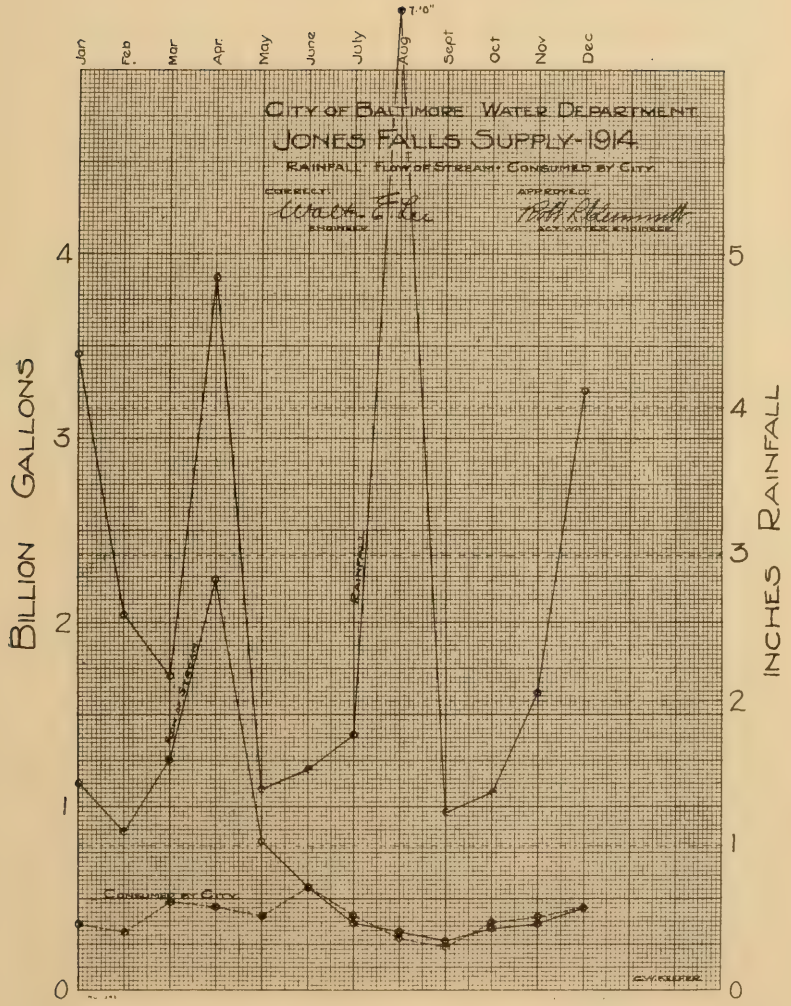
This truck when put into operation should cost no more than $0.50 per ton "pay load" to operate, but to bring it to its full utilization on a time standard, there must be developed a delivery schedule by which it could be timed on each operation. This will call for considerable planning and ingenuity by the person in charge, in anticipation of supplies to be furnished to the line of work in advance of the arrival of the construction forces on the ground.

The work of the Pitometer Survey during the year 1914 has been in the Western High Service, Eastern High and Upper Service, in which 150 miles of mains, ranging in size from 3 inches to 20 inches were surveyed at an average cost of $50 per mile. This included the preliminary overhauling of valves and curb stops, and uncovering the mains at leaks. This survey also covered about 30 square acre miles of territory, in which 110,000 houses were inspected at a cost of $0.05 per house inspection. This resulted in the detection of 11,764 leaking plumbing fixtures on which the tenants of the properties were notified and successfully followed up by this Department until repaired.

Of the 1,400,000,000 gallons of water in leakage and waste detected and stopped by the Pitometer measurements, 45 per cent. was due to leaks on mains, private pipes and services outside of the curb line, while the remaining 55 per cent. inside of the curb stops was due almost entirely to defective house fixtures of which I have spoken above.



Rainfall, Stream Flow and Consumption



Rainfall, Stream Flow and Consumption

The work of the Pitometer Survey was also very useful in reporting to the Department those classes of property which can be properly metered under the classification as laid down by the Water Board at various meetings, and during 1914, 229 cases of these classes of property were reported and which have since been scheduled for metering. The subject of metering properties having non-automatic siphons or cellar drainers has been the subject of previous reports, and I desire to point out again the necessity of either metering those properties or else compelling them to install siphon drainers of the automatic electric type.

Another large waste of water is in buildings, either public or those enjoying a flat rate, where continuous or automatic flush closets are used, which flush at intervals of 45 seconds, the consumption per closet being about 5,000 gallons per day. This should be the subject of a special investigation and the premises having these continuous flush closets in them should be equipped with the usual type of manually operated closets.

From the statistics of water consumption submitted with this report, it will be seen that for 1914 the total consumption averaged 72.71 million gallons per day of which 18.93 million gallons per day was metered. For 1913 the total consumption of the city averaged 75.18 million gallons per day. Of this amount 18.40 million gallons per day was metered. Substracting the metered consumption in each year gives 56.78 million gallons per day in 1913 as against 53.78 million gallons per day in 1914, that is, there was a decrease in 1914 of 3 million gallons per day and in addition, the usual yearly increase of about 2 million gallons per day, which has occurred in recent years has been entirely eliminated.

This unusual reduction in consumption of 5 million gallons per day has been due to the survey for leakage which is being conducted by this Department, the following up of the Department's orders against promiscuous water waste, especially during the summer months, the metering of a large number of apartment houses and saloons which had a very high consumption and also, perhaps, by the uncovering of poor service pipes in the course of other public work.

INSTALLATION AND INSPECTION OF FIRE, METER AND FLAT SERVICES—1914.

Months.	Fire Services Located.	Fire Services Inspected.	Special Inspections.	New Services Located.	Meter Services Located.	Plumbing Inspections.	Private Pipe Inspections.	Complaints Investigated.	Meters Read.	Meters Inspected.	Minor Repairs to Meters.	Meters Tested.
January	3	83	36	361	87	60	6	2	417	192	68	111
February	.....	92	12	231	87	57	8	1	243	168	65	113
March	6	63	29	570	102	50	4	4	3,712	366	92	123
April	4	83	31	390	123	75	19	3	105	616	91	106
May	2	112	48	455	145	80	8	2	611	834	73	102
June	4	95	63	360	134	74	6	1	4,012	608	34	92
July	2	106	41	280	122	90	3	3	378	414	98	80
August	2	121	67	265	150	95	.....	4	887	603	62	115
September	4	83	141	272	155	80	12	1	2,994	608	50	48
October	4	36	93	299	133	75	12	2	888	666	76	63
November	3	62	89	158	149	60	3	1	407	836	75	131
December	2	67	61	210	78	70	.....	.....	4,386	432	86	108
Totals	36	1,003	701	3,851	1,465	866	73	24	19,040	6,343	870	1,192
1913	23	831	244	4,034	345	1,339	74	130	19,920	4,441	865	1,161

Of our four services of distribution, the Upper Service was the only one which showed an increase. This increase was about 20 per cent. and is excessive, considering the natural growth of the territory served by the Eastern and Western Upper Services. In the Western Upper Service, particularly, there is a considerable amount of water wasted by residents in that territory leaving lawn sprinklers running continuously 12 to 24 hours a day during the summer months.

It would be desirable that regulations be established for the use of lawn sprinklers, setting certain hours of the day during which they may be used.

The distribution of consumption of water during 1914 for the different uses was as follows:

	Gals. Per Day.	Per cent.
Commercial and industrial	22,000,000	30.56
Domestic	24,000,000	33.33
Public consumption	10,000,000	13.89
Leakage and waste	16,000,000	22.22
Total	72,000,000	100.00

Of the first two classes of consumption, namely, commercial or industrial and domestic, but 18.93 per cent. of this consumption is metered.

The work of the Pitometer Survey, in addition to its daily compilation of water supply and consumption reports and its house-to-house inspections incident to its elimination of underground leakage, has been extended to test out all mains in the streets in which improved paving will be laid. This should reduce to a minimum the joint leaks on such mains and eliminate the necessity for disturbing improved paving after being laid.

To bring up to date the pressures which exist on our mains in the different services in the city a Pressure Survey was inaugurated about August 14 and continued until freezing weather. The pressure readings on mains in the High and Upper Services have been taken first, as the pressures in these services will not change upon the completion of the Filtration Plant.

Pressure readings in the territory now covered by our Middle and Low Services will be delayed until after the completion of the Filtration Plant, when these two services will be merged into one, under a common gravity head. When all readings have been taken they will be plotted by location on a map of the City of Baltimore, with intermediate pressures between observed valves, being corrected for difference in elevation.

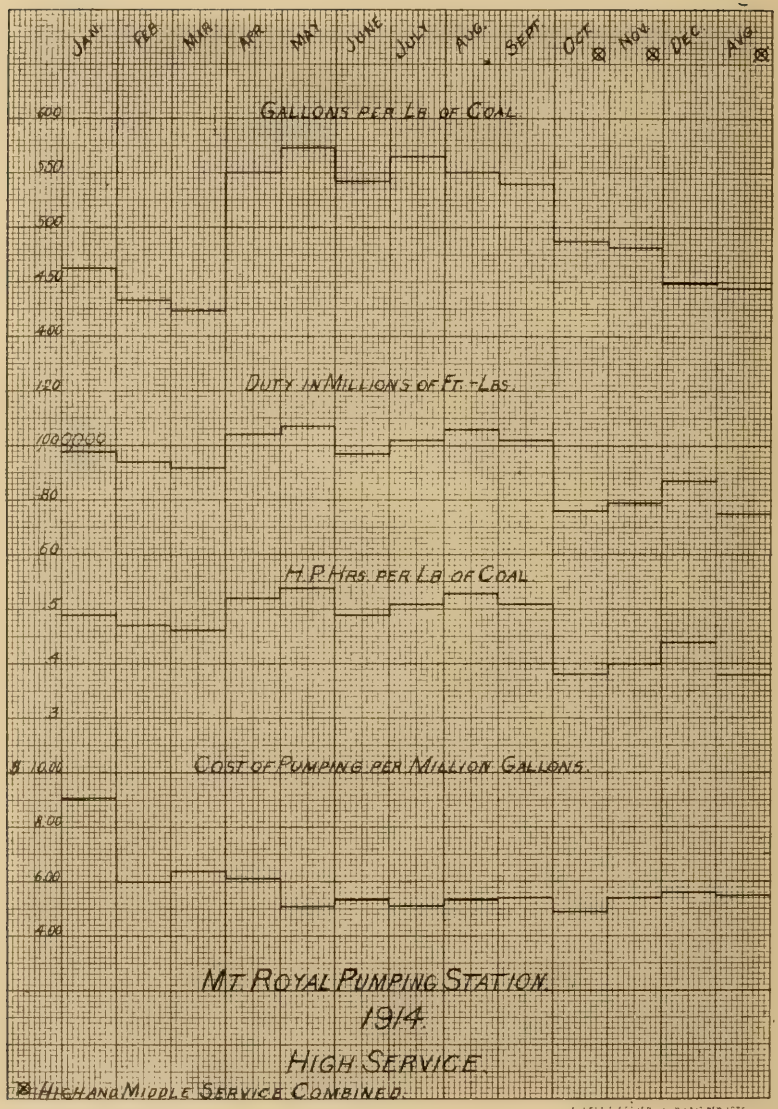
The Water Department having about 10 miles of mains in Highlandtown and Canton but, without any accurate record as to where they are laid, a party was organized the early part of 1914 for the locating of these mains. This was not only imperative for our necessity of having adequate records for the location of leaks, but also to check, in some way, the persons who were taking water from our mains lying in this territory, without paying any rent; there having been reported to us several instances where individuals had made taps without previously making the proper application or the payment of the necessary fee to the Collector of Water Rents and Licenses.

If you will refer to the engine room records for 1914 on the operations of the work at each pumping station, you will note that the cost of pumping 1 million gallons of water at Mt. Royal Pumping Station on combined Middle and High Services is $5.55, as against $6.61 per million gallons in 1913. This is due, to a certain extent, to the increased efficiency of the new vertical high duty pumping engine, by which most of our pumping at this station is now done.

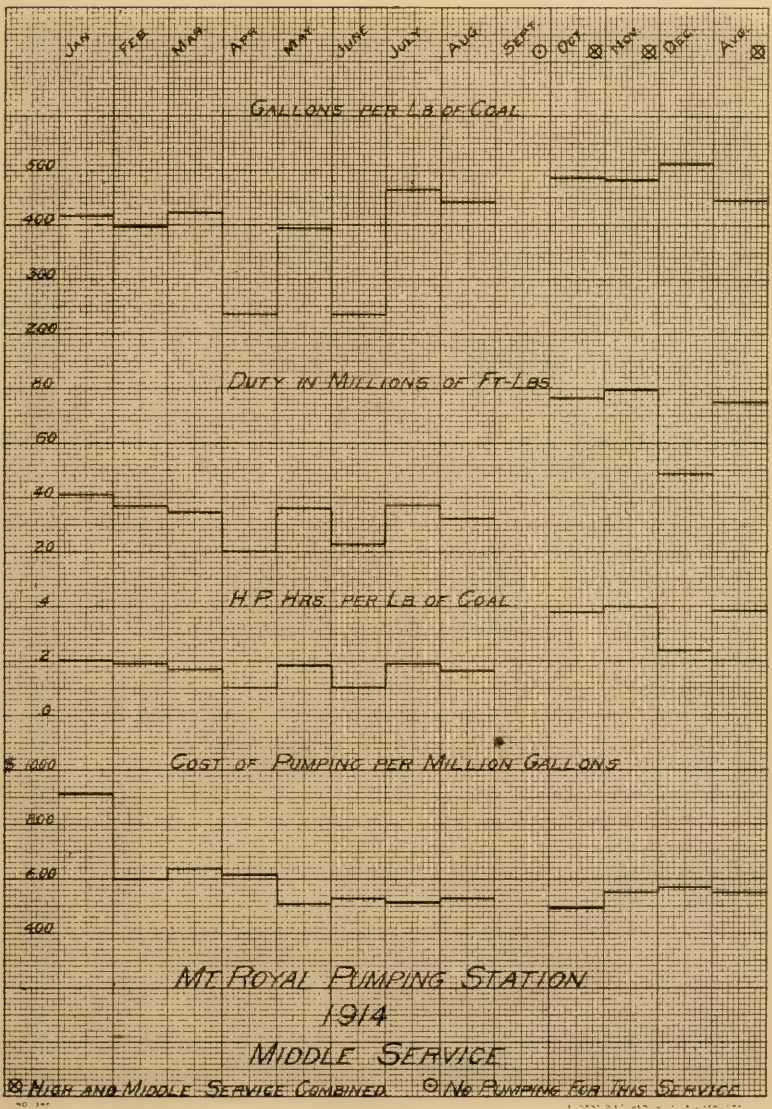
However, this cost of pumping can be still further reduced by a series of intelligent boiler studies, made at the plant for a period of 4 to 5 months, testing out all the different fuels that are available in the Baltimore market and which can be successfully burned in the mechanical stokers in the Mt. Royal Pumping Station. Mechanical stokers are designed not only to minimize the smoke nuisance but also to permit the burning of low grade coals, naturally high in ash, but with a corresponding reduction in the price per ton, and, therefore, in the fuel charges for the station.

Yours respectfully,

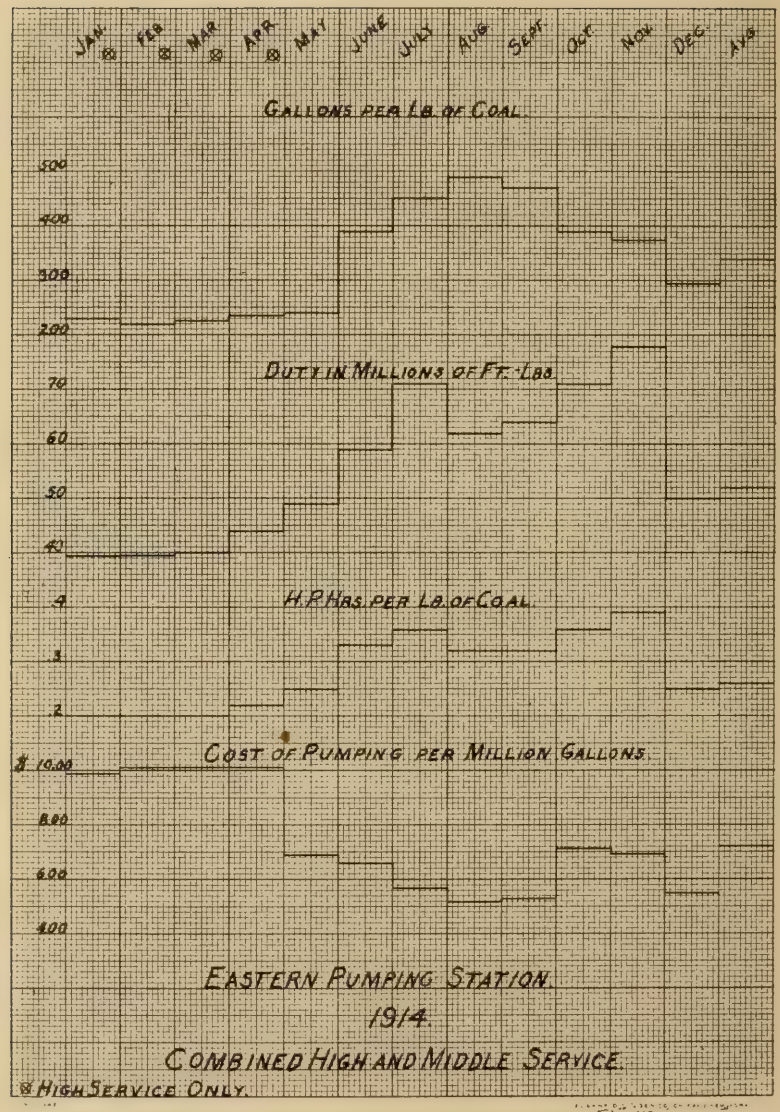
WALTER E. LEE.
Acting Assistant Water Engineer.



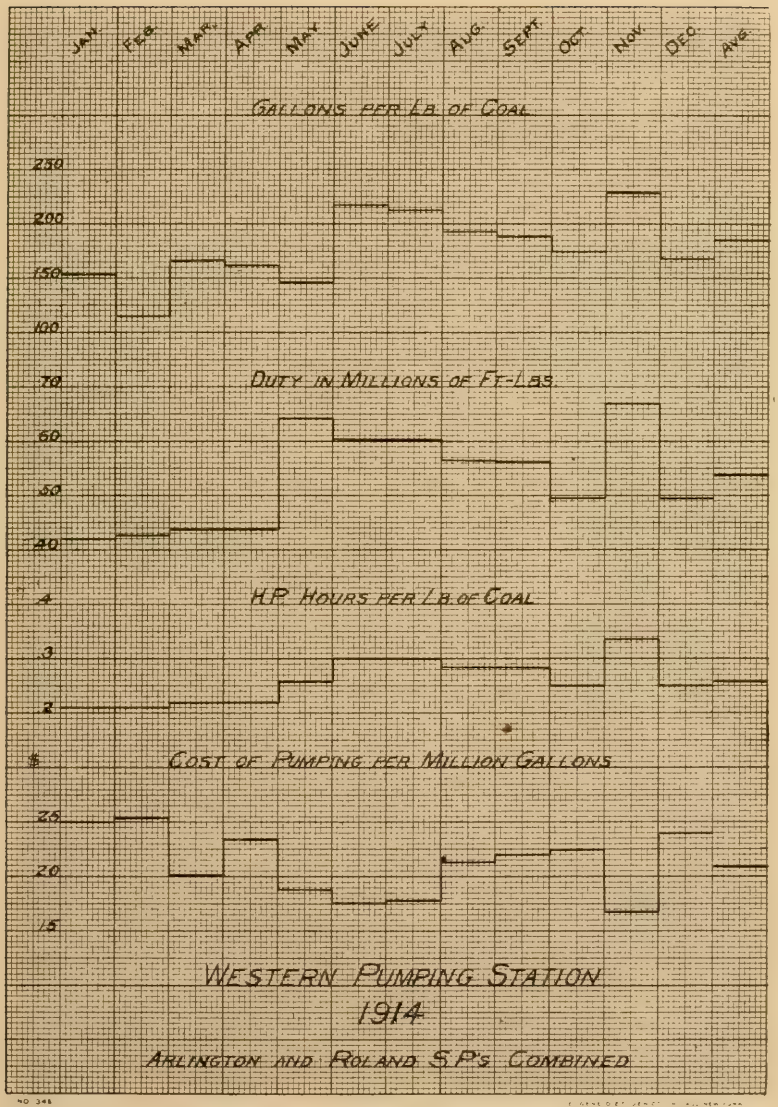
Station Duty and Pumping Costs



Station Duty and Pumping Costs



Station Duty and Pumping Costs



Station Duty and Pumping Costs

ENGINE ROOM RECORDS—1914.

Mt. Royal Pumping Station.

	High Service.	Middle Service.	Combined Services.
Total hours worked:			
Pump No. 10	6,787.00	.....	.....
Pump No. 1208	1,297.50	114.0	.....
Pump No. 1209	195.50	2,709.15	.....
Averages.			
Steam pressure at throttle (lbs):			
Pump No. 10	166.30	.....	.....
Pump No. 1208	138.00	131.0	.....
Pump No. 1209	133.90	127.40	.....
Water pressure in suction main (lbs.):			
Pump No. 10	13.90	.....	.....
Pump No. 1208	11.70	13.0	.....
Pump No. 1209	19.60	9.8	.....
Water pressure in force main:			
Pump No. 10	107.7	.....	.....
Pump No. 1208	103.8	53.0	.....
Pump No. 1209	113.4	51.3	.....
Inches vacuum:			
Pump No. 10	28.0	.....	.....
Pump No. 1208	26.0	24.0	.....
Pump No. 1209	26.2	24.8	.....
Strokes per minute:			
Pump No. 10	20.6	.....	.....
Pump No. 1208	17.4	22.7	.....
Pump No. 1209	15.7	17.2	.....
Length of stroke (inches):			
Pump No. 10	60.0	.....	.....
Pump No. 1208	48.7	48.0	.....
Pump No. 1209	48.75	44.8	.....
Net head on plungers:			
Pump No. 10	216.6	.....	.....
Pump No. 1208	212.7	92.4	.....
Pump No. 1209	216.7	95.8	.....
Slip.			
Per cent. of slip:			
Pump No. 10	9.2	.....	.....
Pump No. 1208	9.5	10.0	.....
Pump No. 1209	9.1	8.82	.....

ENGINE ROOM RECORDS—1914.

MT. ROYAL PUMPING STATION—*Continued.*

	High Service.	Middle Service.	Combined Services.
GALLONS PUMPED.			
Per piston displacement:			
Pump No. 10	5,448,041,658	.....	.....
Pump No. 1208	994,350,880	87,102,666	.....
Pump No. 1209	125,967,987	1,946,689,024	.....
Corrected for slip:			
Pump No. 10	5,015,341,059	.....	.....
Pump No. 1208	952,519,816	78,392,399	.....
Pump No. 1209	114,238,615	1,717,070,263	.....
Total for service	6,082,099,490	1,795,462,662	.....
Per pound of coal:			
Pump No. 10 / Pump No. 1208 / Pump No. 1209	.....	.....	444.05
DUTY.			
Millions of ft. lbs. of work done:			
Pump No. 10	9,813,200	.....	.....
Pump No. 1208	1,758,800	66,921	.....
Pump No. 1209	227,000	1,550,900	.....
Duty in ft. lbs. per 100 lbs. coal fired:			
Pump No. 10 / Pump No. 1208 / Pump No. 1209	.....	.....	75,630,000
COST.			
Total cost of pumping	.....	.....	$43,775.33
Cost of pumping 1,000,000 gallons	.....	.....	5.55
FUEL.			
Total coal fired (lbs.)	.....	.....	17,740,687
HORSEPOWER.			
Horsepower hours:			
Pump No. 10	4,956,720	.....	.....
Pump No. 1208	888,285	33,809	.....
Pump No. 1209	114,650	783,290	.....
Total horsepower hours for service	5,959,655	817,099	6,776,754
Horsepower hours per lb. of coal	.....	.....	.382

ENGINE ROOM RECORDS—1914.

EASTERN PUMPING STATION.

	High Service.	Middle Service.	Combined Services.
Total hours worked:			
Pump No. 839	4,958.8	.....	.....
Pump No. 1207	3,979.6	291.5	.....
AVERAGES.			
Steam pressure at throttle (lbs.)			
Pump No. 839	124.1	.....	.....
Pump No. 1207	124.1	124.9	.....
Water pressure in suction main:			
Pump No. 839	25.4	.....	.....
Pump No. 1207	29.0	22.5	.....
Water pressure in force main (lbs.):			
Pump No. 839	113.6	.....	.....
Pump No. 1207	113.7	67.0	.....
Inches vacuum:			
Pump No. 839	27.3	.....	.....
Pump No. 1207	27.0	26.5	.....
Strokes per minute:			
Pump No. 839	19.6	.....	.....
Pump No. 1207	20.5	23.8	.....
Length of stroke (inches):			
Pump No. 839	37.0	.....	.....
Pump No. 1207	37.0	37.0	.....
Net head on plungers (ft.):			
Pump No. 839	203.7	.....	.....
Pump No. 1207	195.6	102.8	.....
SLIP.			
Per cent. of slip:			
Pump No. 839	9.1	.....	.....
Pump No. 1207	5.2	3.7	.....

ENGINE ROOM RECORDS—1914.

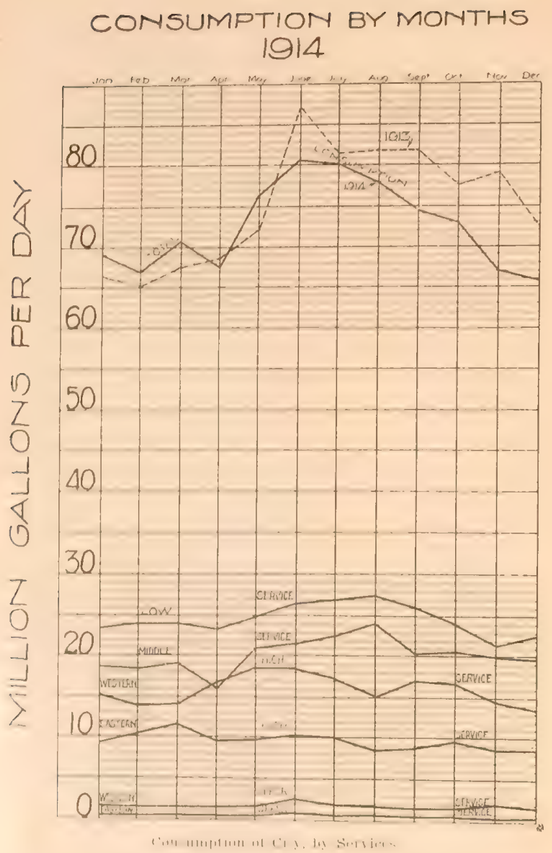
EASTERN PUMPING STATION—*Continued.*

	High Service.	Middle Service.	Combined Services.
GALLONS PUMPED.			
Per piston displacement:			
Pump No. 839	2,148,156,080		
Pump No. 1207	1,617,042,954	1,447,951,403	
Corrected for slip:			
Pump No. 839	1,952,095,014		
Pump No. 1207	1,533,627,390	1,394,648,437	
Total for service	3,485,722,404	1,394,648,437	
Per pound of coal:			
Pump No. 839			341.8
Pump No. 1207			
DUTY.			
Millions of ft. lbs. of work done:			
Pump No. 839	3,638,900		
Pump No. 1207	2,630,300	1,237,500	
Duty in ft. lbs. per 100 lbs. of coal fired:			
Pump No. 839			52,575,000
Pump No. 1207			
COST.			
Total cost of pumping			$35,562.12
Cost of pumping 1,000,000 gallons			7.29
FUEL.			
Total coal fired (lbs.)			14,278,464
HORSEPOWER.			
Horsepower hours:			
Pump No. 839	1,837,700		
Pump No. 1207	1,328,400	625,000	
Total horsepower hours for service	3,166,100	625,000	3,791,100
Horsepower hours per lb. of coal			.265

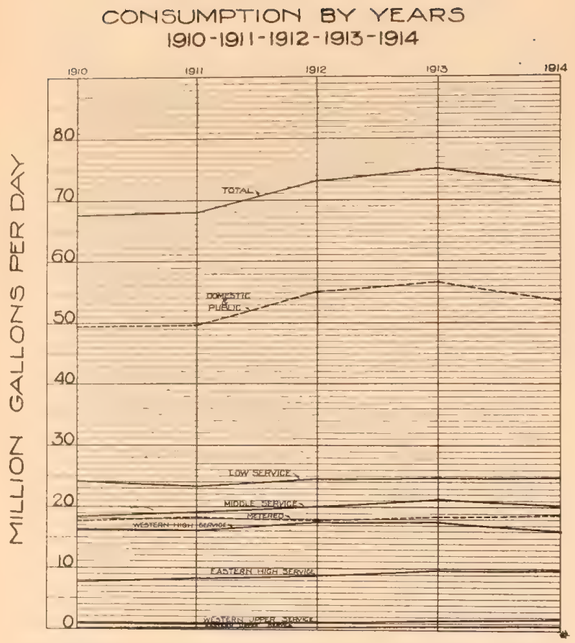
ENGINE ROOM RECORDS—1914.

Western Pumping Station.

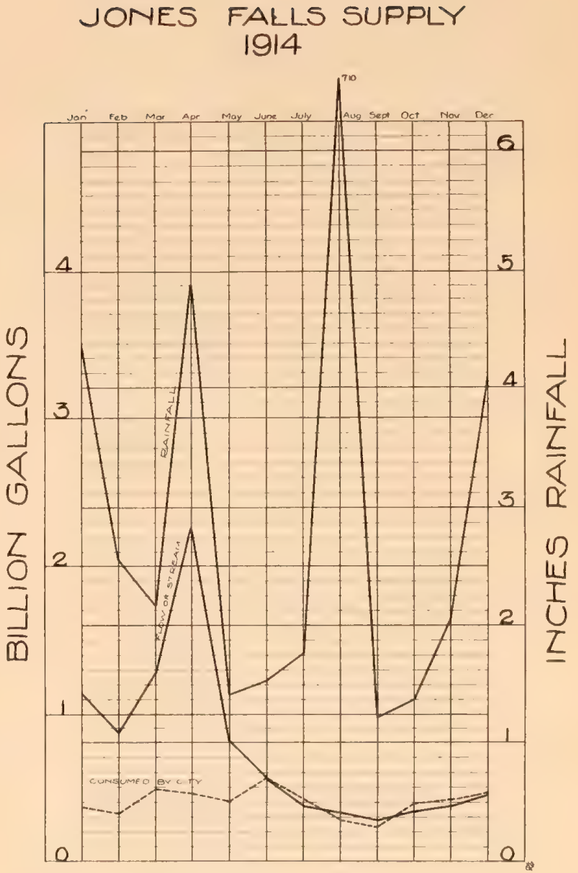
	High Service.	Arlington Standpipe.	Roland Standpipe.	Combined Services.
Total hours worked:				
Pump No. 46	12.5	408.1	1,472.0	
Pump No. 90	12.5	4,412.43	121.2	
Averages.				
Steam pressure at throttle (lbs.):				
Pump No. 46	110.0	125.0	105.0	
Pump No. 90	110.0	125.0	105.0	
Water pressure in suction main (lbs.):				
Pump No. 46	1.0	.20	.26	
Pump No. 90	1.0	.22	1.20	
Water pressure in force main (lbs.):				
Pump No. 46	87.25	143.2	104.7	
Pump No. 90	87.25	148.50	100.2	
Inches vacuum:				
Pump No. 46	27.0	27.0	27.0	
Pump No. 90	27.0	27.0	27.0	
Strokes per minute:				
Pump No. 46	36.0	30.2	30.0	
Pump No. 90	36.0	29.8	30.0	
Length of stroke (inches):				
Pump No. 46	24.0	24.0	24.0	
Pump No. 90	24.0	24.0	24.0	
Net head on plungers (ft.):				
Pump No. 46	199.2	330.25	241.2	
Pump No. 90	199.2	340.17	228.6	
Slip.				
Per cent. of slip:				
Pump No. 46	2%	4.22%	3.73%	
Pump No. 90	4%	5.59%	7.17%	



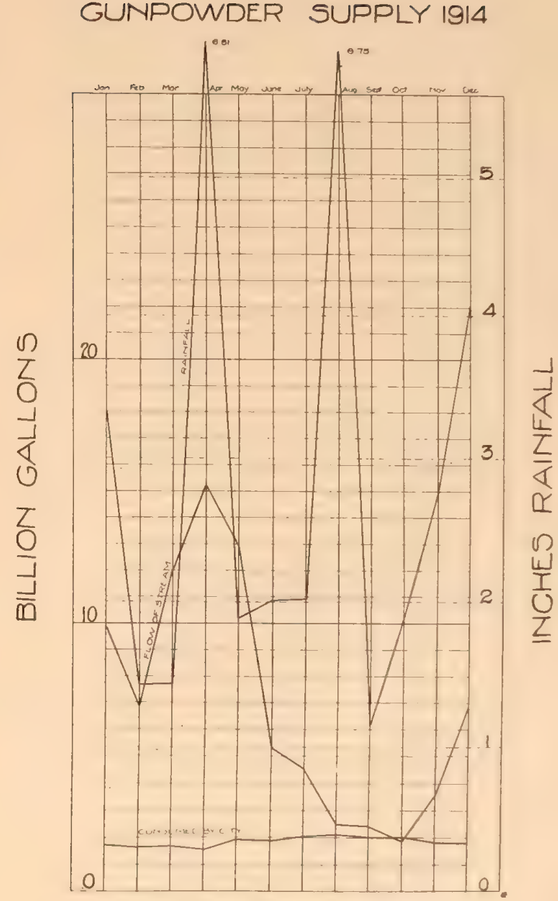
Consumption of City, by Services.



Consumption of City, by Years, Showing Decrease Since 1913, Due to Pitometer Operations



Rainfall, Stream Flow and Consumption



Rainfall, Stream Flow and Consumption

REPORT OF THE WATER CONSUMPTION FOR THE YEAR 1914 (GALLONS).

	January	February.	March.	April.	May	June.	July.	August.	September.	October.	November.	December.	Totals.	Grand Totals.	Net Totals.
LOW SERVICE.															
By Venturi Meter No. 223	372,760,000	349,540,000	384,740,000	363,670,000	399,220,000	415,270,000	441,370,000	453,870,000	403,640,000	383,530,000	310,100,000	361,560,000	4,639,270,000		
By Venturi Meter No. 224	353,390,000	327,920,000	365,940,000	342,740,000	374,530,000	388,060,000	408,400,000	407,970,000	376,830,000	371,690,000	334,850,000	329,750,000	4,382,070,000		
By open valves from Middle Service	000	000	000	000	000	000	000	000	000	000	000	000	000		
Total Low Service consumption	726,150,000	677,460,000	750,680,000	706,410,000	773,750,000	803,330,000	849,770,000	861,840,000	780,470,000	755,220,000	644,950,000	691,310,000			9,021,340,000
MIDDLE SERVICE.															
By Venturi Meter No. 220	90,080,000	71,650,000	124,410,000	116,290,000	101,800,000	136,140,000	101,180,000	53,730,000	62,530,000	73,380,000	94,600,000	102,230,000	1,128,020,000		
By Venturi Meter No. 221	116,810,000	106,790,000	140,880,000	130,600,000	111,770,000	138,560,000	114,930,000	73,630,000	70,620,000	99,760,000	101,570,000	115,670,000	1,353,590,000		
By Venturi Meter No. 222	155,940,000	141,530,000	184,630,000	172,430,000	155,540,000	191,220,000	155,650,000	98,080,000	92,480,000	132,260,000	135,560,000	152,910,000	1,773,230,000		
By 6-inch Meter No. 100,900	000	000	000	000	000	000	000	46,000,000	40,000,000	16,720,000	60,273,000	59,163,000	222,156,000		
By 6-inch Meter No. 200,900	000	000	000	000	000	000	000	000	000	000	000	000	000		
By Eastern Pumping Station	000	000	000	000	184,541,375	114,091,437	203,219,200	379,517,389	351,258,425	63,619,386	79,537,134	18,863,881	1,394,648,227		
By Mt Royal Pumping Station	261,088,068	249,311,625	173,251,845	92,612,953	119,785,890	78,835,923	138,471,538	137,298,547	000	253,299,918	134,418,245	154,181,964	1,795,556,516	7,632,200,743	
Less amount supplied Low Service by open valves	000	000	000	000	000	000	000	000	000	000	000	000	000		
Less amount registered by influent register of Venturi Meter No. 220	16,780,000	53,730,000	28,810,000	25,660,000	27,080,000	000	17,030,000	41,030,000	4,090,000	000	8,270,000	000	252,480,000		
Less amount registered by influent register of Venturi Meter No. 221	000	000	000	000	000	000	000	000	000	000	000	000	000		
Less amount registered by influent register of Venturi Meter No. 222	000	000	000	000	000	000	000	000	000	000	000	000	000	252,480,000	
Total Middle Service consumption	580,138,068	515,551,625	594,361,845	486,272,953	646,375,265	658,847,360	696,420,738	749,225,936	612,798,425	639,039,304	597,688,379	603,018,845			7,379,720,743
EASTERN HIGH SERVICE.															
By Eastern Pumping Station	286,832,124	284,865,009	355,994,700	283,290,947	309,619,203	302,520,753	314,163,540	265,735,915	264,220,349	292,336,729	255,351,003	260,825,154	3,475,755,426		
Rainfall in Guilford Reservoir (inches)	676,135	406,474	285,523	892,260	154,658	249,833	301,386	1,344,388	327,162	279,575	370,783	699,928	5,988,105		
Loss in Guilford Reservoir	5,550,000	2,050,000	3,250,000	000	000	3,950,000	000	000	000	000	000	200,000	15,000,000	3,496,743,531	
Less amount registered by Meter 200,900	000	000	000	000	000	000	000	000	000	000	000	000	000		
Less gain in Guilford Reservoir	000	000	000	3,650,000	3,500,000	000	2,000,000	800,000	000	225,000	950,000	000		11,125,000	
Total Eastern High Service consumption	293,058,259	287,321,483	359,530,223	280,533,207	306,273,861	306,720,586	312,464,926	266,280,303	264,547,511	292,391,304	254,771,786	261,725,082			3,485,618,531
WESTERN HIGH SERVICE.															
By Mt Royal Pumping Station	165,725,197	393,526,803	414,129,885	199,784,835	612,146,843	572,986,858	533,823,957	508,927,944	566,697,180	540,954,115	497,218,498	474,177,074	6,080,099,489		
By Western Pumping Station	000	000	3,846,292	000	000	000	000	000	000	000	000	000	3,846,292		
Rainfall in High Service Reservoir (inches)	657,531	345,902	200,451	588,486	190,407	238,754	211,942	891,178	252,798	204,282	271,950	563,051	4,616,732		
Rainfall in Lake Ashburton (inches)	2,578,637	1,296,355	966,894	2,864,912	837,975	1,310,794	1,232,015	5,185,925	716,218	1,109,800	1,160,273	2,721,628	21,981,426		
Loss in High Service Reservoir	1,360,000	000	600,000	4,850,000	000	000	000	4,570,000	000	000	700,000	150,000	12,230,000		
Loss in Lake Ashburton	9,600,000	000	15,200,000	000	000	000	2,400,000	000	000	000	000	4,000,000	31,200,000	6,153,973,939	
Less amount registered by Meter No. 100,900	000	000	000	000	000	000	000	46,000,000	40,000,000	16,720,000	60,273,000	59,163,000	222,156,000		
Less gain in High Service Reservoir	000	2,350,000	000	000	11,400,000	560,000	270,000	000	3,700,000	150,000	000	000	18,430,000		
Less gain in Lake Ashburton	000	10,200,000	000	10,200,000	23,700,000	8,500,000	000	3,100,000	12,700,000	000	1,500,000	000	69,900,000		
Less amount used by fountain, Druid Lake	000	000	000	000	000	000	000	000	000	000	000	000	000	310,486,000	
Total Western High Service consumption	179,921,665	382,619,060	434,943,522	497,888,233	578,075,225	565,476,406	537,397,914	470,475,047	511,266,196	525,398,197	437,577,721	422,448,753			5,843,487,939
WESTERN UPPER SERVICE.															
By Western Pumping Station	10,322,271	35,288,481	42,959,348	40,950,075	57,339,641	71,873,531	66,819,533	57,720,955	49,210,778	44,118,407	63,320,275	43,472,992			613,396,290
EASTERN UPPER SERVICE.															
By Western Pumping Station	11,333,523	13,248,843	15,702,600	15,040,609	18,106,255	18,929,045	20,757,465	18,210,008	16,838,782	16,904,225	14,025,749	15,911,877			198,208,981
Total consumption by the city	2,134,123,786	1,911,489,492	2,198,177,538	2,027,095,077	2,379,902,250	2,425,176,928	2,483,630,576	2,423,752,249	2,235,131,692	2,273,071,437	2,012,333,910	2,037,887,549			26,541,772,484
Average consumption per day	68,842,703	68,267,481	70,909,087	67,569,836	76,771,040	80,839,231	80,117,115	78,185,549	74,504,390	73,324,885	67,077,797	65,735,082			72,678,683
Average consumption per capita per day	115	114	119	115	129	136	134.5	131	125	123	112	110			122

[Continued]

[Concluded]

FLOW, CONSUMPTION AND WASTE, GUNPOWDER SUPPLY, 1914 (GALLONS)

	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November	December.	Totals.	Grand Totals.	Net Totals.
Consumed by the city	1,742,795,689	1,605,163,437	1,694,056,430	1,582,098,735	1,999,843,311	1,871,764,971	2,039,448,235	2,153,319,795	2,002,645,954	1,905,430,148	1,611,474,880	1,599,358,073	21,807,399,658		
Waste from drain gates at Lake Clifton	000	000	000	000	000	000	000	000	000	000	000	000	000		
Waste over waste weirs at Lake Clifton	6,066,000	17,775,000	71,000	711,000	141,750	000	000	000	000	000	000	000	24,764,750		
Waste from drain gates at Lake Montebello	000	000	000	2,954,160,000	2,513,053,000	1,022,800,000	000	000	516,880,000	000	1,335,880,000	2,433,840,000	10,776,613,000		
Waste over waste weirs at Lake Montebello	75,052,000	72,172,800	42,729,600	92,124,800	7,054,400	1,950,000	24,024,000	1,536,000	4,588,000	000	000	9,216,000	330,447,600		
Waste from drain gates at Loch Raven Dam	8,078,935,000	5,045,290,000	9,973,980,000	7,092,511,000	7,798,822,000	1,747,571,000	1,884,607,000	223,750,000	109,400,000	000	833,600,000	000	42,788,466,000		
Clear water over Loch Raven Dam	000	000	4,368,000	3,135,676,000	000	489,912,000	000	000	000	000	000	000	3,629,956,000		
Muddy water over Loch Raven dam	15,328,000	000	477,300,000	915,480,000	778,640,000	50,400,000	369,312,000	41,136,000	145,300,000	000	24,660,000	2,805,480,000	5,623,036,000		
Gain in Lake Clifton	15,300,000	8,800,000	000	000	000	73,900,000	21,100,000	59,300,000	000	000	000	34,250,000	212,650,000		
Gain in Lake Montebello	35,900,000	9,500,000	5,500,000	000	000	157,400,000	3,500,000	151,000,000	000	85,000,000	000	61,750,000	509,550,000	85,702,883,008	
Rainfall in Lake Clifton (inches)	4,149,291	2,211,686	1,667,404	3,930,927	1,943,865	1,252,713	1,701,962	5,304,592	1,468,698	1,235,434	1,641,486	3,329,842	30,137,900		
Rainfall in Lake Montebello (inches)	8,643,307	3,205,596	3,138,443	7,619,536	3,977,599	3,030,962	1,846,143	11,647,485	2,634,950	2,551,034	3,524,455	7,384,573	59,204,083		
Loss in Lake Clifton	000	000	5,000,000	62,500,000	86,800,000	000	000	000	52,700,000	47,500,000	1,000,000	000	225,500,000		
Loss in Lake Montebello	000	000	000	279,000,000	26,000,000	000	000	000	117,000,000	000	175,000,000	000	579,000,000		
Spring water entering tunnel	93,000,000	84,000,000	93,000,000	90,000,000	93,000,000	90,000,000	93,000,000	93,000,000	90,000,000	93,000,000	90,000,000	93,000,000	1,095,000,000	2,036,841,983	
Total flow of stream per month	9,863,284,091	6,669,283,955	12,095,199,183	15,329,711,072	12,885,832,997	5,321,414,296	4,245,443,130	2,520,089,718	2,515,010,306	1,846,143,680	3,531,448,939	6,840,179,658			83,666,041,025
Average flow of stream per day	318,170,455	238,188,713	390,167,716	510,990,369	415,736,548	177,380,479	136,949,778	81,293,216	83,833,677	59,533,022	117,814,965	220,670,311			233,394,021
Total waste per month	8,175,381,000	5,135,237,800	10,498,448,600	14,190,662,800	11,097,711,150	3,312,633,000	2,277,943,000	266,422,000	776,168,000	000	2,194,140,000	5,248,536,000			63,173,283,350
Average waste per day	263,721,968	183,401,350	338,659,632	473,022,093	358,635,843	110,421,100	73,482,032	8,271,677	25,872,267	000	73,138,000	169,307,613			176,161,131
Average amount consumed by city per day	56,219,216	57,327,266	54,646,982	52,736,624	64,511,074	62,392,166	65,788,653	69,461,929	66,754,865	61,465,488	53,715,829	51,592,196			59,717,691

FLOW, CONSUMPTION AND WASTE, JONES FALLS SUPPLY, 1914 (GALLONS).

	January	February.	March	April.	May.	June.	July.	August.	September.	October.	November.	December.	Totals.	Grand Totals.	Net Totals.
Consumed by the city	370,905,794	314,777,324	483,618,240	449,650,681	417,475,899	556,722,576	442,306,998	262,340,963	247,589,560	306,422,632	409,076,024	430,194,869	4,751,081,563		
Waste from Druid Lake	000	000	000	000	000	000	000	000	000	000	000	000	000		
Waste from Harper's Waste Weir	000	000	000	000	000	000	000	000	000	000	000	000	000		
Waste from drain gates at Lake Roland	000	000	000	000	000	000	000	000	000	000	000	000	000		
Clear water over Lake Roland Dam	777,000,000	551,000,000	816,000,000	478,000,000	56,000,000	000	000	000	000	000	000	000	2,678,000,000		
Muddy water over Lake Roland Dam	000	000	000	1,370,000,000	273,000,000	000	000	000	000	000	000	000	1,643,000,000		
Gain in Druid Lake	000	3,300,000	000	000	30,000,000	5,000,000	000	42,200,000	10,200,000	000	000	7,000,000	97,700,000		
Gain in Hampden Reservoir	000	1,250,000	000	000	19,000,000	000	000	5,900,000	3,720,000	000	000	2,100,000	31,970,000	9,201,751,563	
Rainfall in Druid Lake (inches)	8,080,350	4,171,500	2,427,050	7,122,450	2,132,100	3,167,250	2,750,100	10,274,250	3,060,100	2,410,200	3,198,150	6,597,150	55,390,650		
Rainfall in Hampden Reservoir (inches)	1,123,381	589,884	396,870	1,001,945	333,978	366,599	333,978	1,583,144	429,401	353,496	477,112	988,923	7,978,711		
Loss in Druid Lake	2,000,000	000	41,800,000	32,800,000	000	000	4,200,000	000	000	1,750,000	22,000,000	000	104,550,000		
Loss in Hampden Reservoir	770,000	000	500,000	20,450,000	000	1,550,000	9,585,000	000	000	000	1,000,000	000	33,855,000		
Water from Gunpowder by fountain in Druid Lake	000	000	000	000	000	000	000	000	000	000	000	000	000	201,774,361	
Total flow of stream per month	1,135,932,063	865,565,910	1,254,494,320	2,236,276,289	793,009,821	556,638,727	425,437,920	298,583,569	258,020,059	361,908,936	382,400,762	431,708,796			8,999,977,202
Average flow of stream per day	36,642,970	30,913,069	40,470,462	74,542,542	25,580,962	18,554,624	14,267,968	9,631,728	8,600,669	11,674,482	12,743,358	13,926,090			24,795,744
Total waste per month	777,000,000	551,000,000	816,000,000	1,848,000,000	329,000,000	000	000	000	000	000	000	000			4,321,000,000
Average waste per day	25,064,516	19,679,285	26,322,581	61,600,000	10,612,903	000	000	000	000	000	000	000			11,106,607
Average amount consumed by city per day	11,964,703	11,242,047	15,600,588	14,988,356	13,466,964	18,557,416	14,267,967	8,462,612	8,252,985	11,820,085	13,635,867	13,877,260			13,428,237
Total gravity supply	1,062,622,303	935,248,731	1,192,302,868	1,095,315,658	1,078,551,379	1,269,250,000	1,204,500,000	1,089,280,000	1,002,010,000	1,060,620,000	967,680,000	1,062,120,000			13,019,500,939
Total pumpage	1,071,501,483	976,240,761	1,005,884,670	931,679,419	1,301,539,210	1,159,237,547	1,277,255,233	1,364,410,750	1,248,225,514	1,211,232,780	1,013,870,904	967,432,942			13,528,511,213
Average consumption per diem	68,842,703	68,267,481	70,909,087	67,569,836	76,771,040	80,839,231	80,117,115	78,185,549	74,504,390	73,324,885	67,077,797	65,735,082			72,678,683
Low Service	23,424,194	24,195,000	24,215,584	23,547,000	24,959,677	26,777,667	27,411,935	27,801,290	26,015,667	24,361,935	21,498,333	22,300,322			24,709,050
Middle Service	18,714,131	18,412,556	19,172,961	16,209,198	20,850,234	21,961,579	22,465,185	24,168,579	20,426,614	20,614,172	19,922,946	19,452,221			20,197,531
Eastern High Service	9,453,492	10,261,482	11,597,784	9,351,106	9,879,802	10,224,019	10,079,514	8,589,684	8,818,250	9,431,978	8,492,393	8,442,745			9,551,854
Western High Service	15,481,344	13,664,967	14,030,436	16,596,107	18,647,588	18,849,214	17,335,416	15,176,614	17,042,207	16,948,329	14,585,924	13,624,153			15,998,526
Eastern Upper Service	468,824	473,173	506,535	501,353	584,073	630,968	669,596	587,416	561,293	545,297	467,525	513,286			542,445
Western Upper Service	1,300,718	1,260,303	1,385,787	1,365,072	1,849,666	2,395,784	2,155,469	1,861,966	1,640,359	1,423,174	2,110,676	1,402,355			1,679,277

Total meter consumption for 1914, 6,909,170,000 gals.
Average meter consumption per day for 1914, 18,929,233 gals.
Maximum consumption (June), 80.84 million gals. per day, 136 gals. per capita.
Average consumption, 72.68 million gals. per day; 122 gals. per capita.
Ratio, maximum to average, 1.11.
Minimum consumption (December), 65.74 million gals. per day; 110 gals. per capita

GUNPOWDER—
Maximum stream flow (April), 540.99 million gals. per day.
Average stream flow, 233.39 million gals. per day.
Ratio, maximum to average, 2.32.
Minimum stream flow (October), 59.53 million gals. per day.

JONES FALLS—
Maximum stream flow (April), 74.54 million gals. per day.
Average stream flow, 24.80 million gals. per day.
Ratio, maximum to average, 3.00
Minimum stream flow (September), 8.60 million gals. per day.

	High Service.	Arlington Standpipe.	Roland Standpipe.	Combined Services.
GALLONS PUMPED.				
Per piston displacement:				
Pump No. 46	1,992,067	52,665,057	189,848,728	.....
Pump No. 90	1,972,986	596,268,571	16,490,982	.....
Corrected for slip:				
Pump No. 46	1,952,226	50,439,471	182,780,085	.....
Pump No. 90	1,894,066	562,954,809	15,308,896	.....
Total for service	3,846,292	613,394,280	198,088,981	.....
Per pound of coal:				
Pump No. 46 Pump No. 90	282.8	.....	.....	185.9
DUTY.				
Millions of ft. lbs. of work done:				
Pump No. 46	3,300	144,660	380,800	.....
Pump No. 90	3,269	1,686,550	31,356	.....
Duty in ft. lbs. per 100 lbs. coal fired:				
Pump No. 46 Pump No. 90	48,301,484	.....	.....	53,680,000
COST.				
Total cost of pumping	.....	.....	.....	$17,048.64
Cost of pumping 1,000,000 gallons	.....	.....	.....	20.90
FUEL.				
Total coal fired (lbs.)	13,600	.....	.....	4,365,281
HORSEPOWER.				
Horsepower hours:				
Pump No. 46	1,666	73,046	192,380	.....
Pump No. 90	1,651	851,780	15,835	.....
Total horse power hours for service	3,317	924,826	208,215	1,133,041
Horsepower hours per lb. of coal	.244	.....	.....	.259

REPORT OF CONSTRUCTION DIVISION

BALTIMORE, December 31, 1914.

MR. ROBERT L. CLEMMITT, *Acting Water Engineer.*

DEAR SIR—I am enclosing you herewith my report of work done by the Construction Division for the year 1914.

This Division has been engaged during the year in the construction, repairs and maintenance of all fixtures, mains and piping owned or controlled by the Water Board, consisting of the laying of all extensions of mains and the connections thereto; the installation of services, meters, hydrants, blows and fountains; the maintenance of and repairs to mains, services, hydrants and fountains.

The Division has during the year done a great deal of work in the way of laying mains in advance of improved paving, which has been carried on by the Paving Commission, the Commission for Opening Streets and the State Roads Commission; we expended during the year for this work "In Advance of Improved Paving" $208,142.83.

A portion of our force was engaged laying mains and making 30-inch, 36-inch and 48-inch connections at Mt. Royal Pumping Station. The amount expended by this Division during this year charged to this account was $19,762.50.

We have installed during the year 3,503 flat rate services, at a loss of $10,837.44; a portion of this loss was due to the system of manifold services installed in advance of improved paving opposite unimproved lots; this loss will, of course, be considerably decreased in years to come as the revenue from the applications for these supplies may be credited to this account with very little expense charged against them.

The Division has sent during the year to the office of the Collector of Water Rents and Licenses for collection 2,159 bills against other departments, contractors and consumers, the amount of which totaled $35,593.38.

I am pleased to report that the employees of this Division, whose number comprise a majority of those in the Department, have performed their duties in a manner which has been thoroughly satisfactory.

I submit herewith details of the work of this Division, with tables showing cost of labor and material, under the headings of the various charge accounts of the Division.

Respectfully submitted,

GEO. R. TRUELOVE,
Superintendent Construction Division.

Number of fire hydrants in use December 31, 1914	3,808
Number of fire hydrants erected during 1914	332
Number of fire hydrants under county meters	7
Number of fire hydrants in county under city charges	17
Number of blows in use December 31, 1914	451
Number of blows in use December 31, 1914 (Sewer inlet)	198
Number of meters in use December 31, 1914	3,978
Number of fountains in use December 31, 1914	252

LENGTH AND COST OF NEW MAINS—COMPLETED—1914.

Size in Inches.	Length Feet.	Cost of Material.	Cost of Labor.	Cost of Hauling.	Cost of Laying Pipe.	Cost of Paving.	Cost Total.	Average Cost Per Foot.
Three-inch	180	$77 67	$96 05	$2 63	$176 35	$21 00	$197 35	$1 09 64-100
Four-inch	2,682	1,159 52	954 54	65 20	2,179 26	252 08	2,431 34	90 65-100
Six-inch	79,381	46,918 29	35,473 13	2,762 47	85,153 89	8,541 56	93,695 45	1 18 3-100
Eight-inch	272	269 29	120 37	15 77	405 43	23 44	428 87	1 57 68-100
Ten-inch	4,099	4,133 37	2,729 47	264 70	7,127 54	538 12	7,665 66	1 87 2-100
Twelve-inch	1,324	1,378 72	447 33	70 23	1,896 28	131 35	2,027 63	1 53 14-100
Sixteen-inch	4,404	7,608 08	2,899 03	478 46	10,985 57	847 57	11,833 14	2 68 69-100
Twenty-inch	145	454 51	335 67	30 00	820 18	65 00	885 18	6 10 48-100
Thirty-inch	5,215	24,058 88	10,946 70	2,813 49	37,819 07	355 22	38,174 29	7 00 1-100
Totals	97,702	$86,058 33	$54,002 29	$6,502 95	$146,563 57	$10,775 34	$157,338 91	.....

MAINS CONNECTIONS——1914.

Size in Inches.	Length Feet.	Cost of Material.	Cost of Labor.	Cost of Hauling.	Cost of Connection.	Cost of Paving.	Cost Total.
Three-inch	135	$84 59	$117 03	$6 25	$207 87	.....	$207 87
Four-inch	445	314 72	275 52	13 50	603 74	$32 00	635 74
Six-inch	914	1,760 75	1,657 69	84 74	3,503 18	34 14	3,537 32
Ten-inch	75	172 57	159 00	6 50	338 07	.....	338 07
Twelve-inch	5	6 06	.....	.....	6 06	.....	6 06
Twenty-inch	57	352 29	841 96	40 37	1,234 62	.....	1,234 62
Totals	1,631	$2,690 98	$3,051 20	$151 36	$5,893 54	$66 14	$5,959 68

WORK ON NEW MAINS—NOT COMPLETED—1914.

Size in Inches.	Pipe Charged, Feet.	Pipe Laid, Feet.	Cost of Material.	Cost of Labor.	Cost of Hauling.	Cost of Laying Pipe.	Cost of Paving.	Cost Total.
Six-inch	18,057	14,311	$11,204 67	$6,021 00	$506 07	$17,731 74		$17,731 74
Ten-inch	3,344	2,724	4,485 72	2,691 33	293 87	7,370 92		7,370 92
Sixteen-inch	5,843	5,232	11,855 02	6,006 10	600 20	18,461 32		18,461 32
Totals	27,244	22,267	$27,545 41	$14,618 43	$1,400 14	$43,563 98		$43,563 98

DATA AS TO METER AND PLUMBING WORK DONE DURING 1914. (BILLED.)

Months.	No. Bills Sent Out.	Cost of Material.	Cost of Labor.	Total Cost.	Amount of Bills.	No. of Bills Paid.	No. of Bills Unpaid.	Amount Received.	Amount Due.	Amount Received During 1914 for 1910-11-12-13 Work.
January	246	$3,367 42	$2,119 57	$5,486 99	$4,323 17	182	64	$3,713 11	$610 06	$6,646 50
February	109	612 01	755 32	1,367 33	1,361 90	82	18	1,195 02	166 68	1,611 13
March	178	1,914 13	1,571 44	3,485 57	2,819 12	170	42	2,481 50	337 62	327 59
April	212	1,366 61	1,097 57	2,464 18	2,379 89	137	41	1,939 88	440 01	149 69
May	301	3,193 71	2,361 07	5,554 78	5,418 96	256	48	4,759 40	659 56	811 93
June	249	2,498 70	1,848 08	4,346 78	4,226 69	209	40	3,663 63	563 06	357 46
July	186	1,935 92	1,319 11	3,255 03	3,012 49	141	39	2,756 02	296 47	243 34
August	152	1,338 56	926 98	2,265 54	2,104 29	104	48	1,724 06	380 23	71 19
September	134	1,598 79	827 98	2,426 77	2,212 57	106	28	1,614 99	597 58	293 44
October	178	1,889 61	1,371 89	3,261 50	2,757 37	136	42	1,926 20	831 17	125 11
November	160	2,484 97	1,286 77	3,771 74	2,982 64	66	94	1,553 82	1,428 82	94 59
December	66	1,459 32	944 14	2,403 46	1,954 29	1	65	6 45	1,947 84	2,987 54
Totals	2,159	$23,659 75	$16,429 92	$40,089 67	$35,593 38	1,590	569	$27,334 28	$8,259 10	$13,719 51

REPAIRS TO PAVING—BY WATER DEPARTMENT—1914.

Months.	Cement Paving.		Brick Paving.		Asphalt Paving.		Ramming.		Total Feet.	Total Cost.
	Sq. Feet.	Cost.	Sq. Feet.	Cost.	Sq. Feet.	Cost.	Sq. Feet.	Cost.		
January	299	$71 80	5,084	$368 85	.....	.....	59,623	$2,683 07	65,006	$3,123 72
February	139	33 76	2,694	195 50	.....	.....	28,909	1,296 14	31,742	1,525 40
March	319	77 68	4,358	316 88	.....	.....	47,150	2,118 25	51,827	2,512 81
April	822	196 37	6,319	457 93	.....	.....	51,705	2,296 46	58,846	2,950 76
May	999	239 71	7,599	553 27	.....	.....	51,718	2,325 49	60,316	3,118 47
June	988	235 56	11,217	813 22	.....	.....	51,133	2,299 24	63,338	3,348 02
July	970	232 26	11,337	821 37	.....	.....	56,250	2,529 97	68,557	3,583 60
August	962	229 33	10,825	784 12	.....	.....	54,253	2,440 92	66,040	3,454 37
September	976	232 97	10,688	774 25	.....	.....	50,002	2,249 73	61,666	3,256 95
October	954	228 28	9,573	693 38	.....	.....	51,588	2,320 98	62,115	3,242 64
November	929	222 19	7,069	512 00	.....	.....	43,252	1,946 22	51,250	2,680 41
December	350	83 41	5,780	419 63	.....	.....	58,351	2,630 15	64,481	3,133 19
Totals	8,707	$2,083 32	92,543	$6,710 40	.....	.....	603,934	$27,136 62	705,184	$35,075 34

Paving included in other reports.

PITOMETER SURVEY—1914.

Months.	House Inspection.	Turn Off.	Survey of Mains.	Cleaning Valves.	Office.	Total.
January	.....	.....	.....	.....	.....	.....
February	.....	.....	.....	.....	.....	.....
March	.....	.....	.....	.....	.....	.....
April	.....	.....	.....	.....	.....	.....
May	.....	.....	.....	.....	.....	.....
June	.....	.....	.....	.....	.....	.....
July	.....	.....	.....	.....	.....	.....
August	.....	.....	.....	.....	.....	.....
September	.....	.....	.....	.....	.....	.....
October	.....	.....	.....	.....	.....	.....
November	$111 81	$2 00	$73 31	.....	$35 87	$222 99
December	309 75	.....	251 80	.....	73 25	634 80
Totals	$421 56	$2 00	$325 11	.....	$109 12	$857 79

TOTAL NUMBER OF FEET OF EACH SIZE MAIN IN SERVICE, INCLUDING EXTENSIONS MADE DURING 1914.

	1½"	2"	3"	4"	4½"	6"	8"	10"	12"	16"	18"	20"	24"	30"	36"	40"	48"
Pipe in ground (feet) December 31, 1913	15,921	96,678	496,266	784,375	53,987	1,366,174	51,626	401,425	188,473	56,627	6,058	240,256	1,787	75,812	33,862	61,903	25,197
Pipe laid during 1914			500	2,962		89,803	354	6,365	1,464	884		88		5,437			132
Totals	15,921	96,678	497,109	784,305	53,987	1,455,977	51,980	407,790	189,937	57,512	6,058	240,344	1,787	81,249	33,862	61,903	25,329
Credit abandoned mains during 1914			8775	11,695	200			2,475							475		
Total number of feet pipe in ground in use December 31, 1914	15,921	96,678	488,334	772,610	53,787	1,455,977	51,980	405,315	189,937	57,512	6,058	240,344	1,787	81,249	33,387	61,903	25,329

Total number of feet of all sizes of pipe 1,006,258 — 758 = 1018 Miles
5280

NEW CONSTRUCTION NEW VALVES, HYDRANTS AND FOUNTAINS 1914

Months	Valves 2"	3"	4"	6"	8"	10"	12"	16"	20"	30"	36"	40"	48"	Cost	Hydrants Old Style.	New Single Nozzle	New Double Nozzle	Cost.	Fountains No.	Cost.	Billed Cost.	Total Cost
January				2										$42 58		26		$1,897 32				$1,939 80
February		1												17 12		12		772 67	1	$56 32	$16 44	862 55
March														6 96	1	26		2,015 33	2	90 37		3,012 66
April		1	1											51 37	1	37		2,802 40	3	36 02		2,889 89
May			3											59 32	8	39		2,959 73	3	103 12		3,122 17
June			3											142 20	10	23		2,129 97	1	29 59		2,301 76
July		1												22 06	1	37		2,711 31				2,744 37
August	1													19 93		26		1,891 40	6	217 36		2,128 69
September	2	2	2											76 81		31		2,331 91	1	34 32		2,443 04
October		4	2	8		1								295 31	1	31		1,992 38	4	154 76	17 88	2,460 36
November																19	13	2,570 72	3	95 64		2,666 36
December		2	1											73 77		14	1	1,107 10	1	13 45		1,194 62
Totals	12	11	11	10		1								$817 46	22	337	14	$26,112 54	23	$830 95	$34 32	$27,795 27

NEW CONSTRUCTION—NEW SERVICE CONNECTIONS AND FIRE SUPPLIES, BILLED 1914

Months	Flat Rate Services $6.00	$8.00	$12.00	$7.00	$9.00	$13.00	Cost	Amount Received	Net Loss	Metered Services Billed ¾"	1"	1½"	2"	3"	4"	6"	Cost.	Amount Received	Unmetered and Fire Services Billed ¾"	1"	1½"	2"	3"	4"	6"	8"	10"	Cost	Amount Received	Total Cost
January	120		111				$2,667 02	$2,052 00	$615 02	6	8	4	1		1		$784 71	$476 99	16	45		1	1	1	1			$641 62	$714 81	$1,096 35
February	49		130				2,109 00	1,910 00	199 00	6	8	4	1		1		889 37	405 93	9	1		2						166 31	182 93	3,104 68
March	213		122				3,926 03	2,742 00	1,184 03	1	6	3			1		555 90	278 37	12	39	4		1	1				729 71	790 42	5,108 64
April	210	16	101				3,862 00	1,490 42	2,371 58	2	8	3			1		971 74	266 09	4	113	5			1	3		1	1,433 36	1,077 92	7,606 58
May	32	10	351		1	17	5,101 57	1,995 00	109 57	17	2	5			1		1,465 79	616 99	2	73	7	1		1				1,560 58	870 63	8,130 94
June	15	15	423		2	8	6,485 18	5,648 00	837 18	11	4	8		4	5		1,649 85	481 41	1	77	7							886 34	969 50	9,021 67
July	3	17	195	1	2	17	3,878 28	2,964 00	914 28	11	9	3	3	1			1,225 53	221 85	1	101	4	3	3	1	1			1,138 60	1,251 91	6,242 13
August	2	6	98	3	1	16	4,651 66	2,971 00	1,677 66	23	20	1	1	1			1,368 43	177 48	2	57	6	1						683 58	748 85	6,701 17
September	10	6	252	3		7	3,578 63	3236 00	342 63	6	6					1	1,076 54	282 72		58	3	1			5			665 04	728 68	5,320 21
October	17	32	217	1	1	12	3,607 49	2 161 00	146 49	8	13	6		1	8	1	1,837 27	435 16		61	2		1	3				803 09	882 18	6,247 85
November	1	20	102		1	14	2,514 47	1,599 00	715 47	27	16	7	4		3	1	2,091 55	391 29		30	1	2	1	1	2			551 40	602 68	4,957 42
December	7	4	89		1	2	3,939 39	1,933 00	2,305 39	5	14	8	2			1	1,340 48	243 80		4		1	1	1	2			356 04	317 98	5,655 91
Total	883	84	2,393	16	18	109	$47,614 44	$36,777 00	$10,837 44	117	105	58	23	34	28	6	$15,457 18	$3,988 28	47	660	39	16	12	13	28		1	$9,610 47	$9,670 19	$72,530 95

REPAIRS TO AND MAINTENANCE OF MAINS 1914

Month	Leaks Caulked 4"	6"	8"	10"	12"	16"	20"	24"	30"	36"	40"	48"	Cost	Breaks Repaired 2"	3"	4"	6"	8"	10"	12"	16"	20"	30"	36"	40"	48"	Cost	Mains Raised, Lowered or Moved 2"	3"	4"	6"	8"	10"	12"	16"	20"	30"	36"	40"	48"	Cost	Locating Stops. Cost	Locating Mains. Cost	Abandoned Main Cost	Billed Cost.	Total Cost
January													$826 79														$818 73													$2,412 57		$780 32	$58 75	$364 26	$5,241 42
February													712 83														128 28													316 26		555 61	84	160 43	1,859 25
March													715 13														758 06													17 06		272 37		622 81	2,385 43
April													553 74														567 74													9 26		239 00		806 69	1,620 43
May													688 74														110 04													806 09		283 25	97	1,311 41	3,505 50
June													534 16														566 51													1,049 34		227 78	10 90	1,824 65	4,505 64
July													1,183 74														665 16													2,203 66		125 37		964 90	4,457 12
August													1,183 74														790 15													2146 02		200 46	17	293 47	4,331 71
September													1,183 74														716 15													1,269 93		152 42		270 16	3,592 14
October													1,183 74														1,031 03													634 32		159 30	89	332 24	3,533 02
November													1,183 74														1,317 50													589 09		214 21	179	239 78	3,723 52
December													1,183 74														1,167 59													1,415 54		698 81	54	124 16	4,007 70
Total													$11,357 64														$9,269 96													$13,906 40		$4,089 00	$504 25	$7,422 19	$42,481 17

REPAIRS TO AND MAINTENANCE OF METERS AND SERVICES, NOT BILLED—1914

Months	Domestic Services Repaired										Fire Services Repaired							Meters Repaired										Services Transferred		Locating Stops		Stop Boxes Lowered		Ferrules Drawn for Leaks		Ferrules Drawn on Abandoned Supplies		Inspections				Work Done on Order Collector of Water Rents								Total Cost
	¾	¾	1	1½	2	3	4	6	Cost.	2	3	4	6	8	10	Cost.	¾	¾	1	1½	2	3	4	6	Cost.	No.	Cost.	No.	Cost.	No.	Cost.	No.	Cost.	No.	Cost.	Plumbing	Meters	No Leaks	Private Pipe Leaks	Cost	Turn Ons	Turn Offs	Ferrules Drawn	Ferrules Returned	Cost.	Amount Received	Distributing Bills and Notices	
January	7	90	3	10	3	1	3		$1,139 52							$48 75	16	69	21	19	32	17	2	3	$871 21		$1,068 58		$65 98		$8 35	15	$70 50	16	$62 37	86	1,146	55	123	$1,057 34	332	69	4	1	$230 71	$94 00	$440 00	$5,870 51
February	5	108	3	14	1	2	3		1,019 52								22	24	25	24	19	16	3	3	798 64		245 15		37 99			15	64 02	9	70 51	87	71	74	99	1,381 35	84	1	1		289 03	134 00		4,037 32
March	4	84	4	11	1	1	2		1,387 51								4	37	13	15	28	10	10	1	748 34		467 02		97 37			24	116 67	16	76 95	84	3	74	107	1,037 30	241	22	1		251 91	15 00		4,148 25
April	11	93	10	12	1	2	4		1,225 04								17	37	22	11	26	20	2	7	776 35		981 78		124 27		31 94	15	66 26	17	61 23	84	8	69	91	880 21	352	16	1	4	98 92	17 00		5,438 95
May	6	104	7	16	3				1,250 54								18	29	23	13	12	7	5	7	640 90		1,441 58		155 25		31 68	29	97 65	14	68 08	88	1	63	126	1,034 61	355	12	3		205 37	10 00		5,043 76
June	15	115	6	5	3	2			1,500 88								4	33	23	10	9	16	9	1	705 30		1,203 69		144 33		4 31	15	84 18	11	52 52	95		51	105	961 47	296	12	18	1	242 87	47 00		4,994 13
July	1	107	10	22	3		1		1,377 97	1	1	1				11 57	7	32	15	9	17	18	8		625 11		1,818 27		120 17		17 72	24	125 58	32	151 87	117		54	122	955 46	122	7			504 00	124 00		5,383 84
August	12	108	9	16	2	1	1		1,293 87								26	19	17	6	11	17	1	1	655 05		1,860 87		111 68		8 66	20	68 51	12	55 87	111		58	135	1,087 05	78	11		2	204 75	25 00		5,204 11
September	22	95	3	16	2	3	1		1,158 26								15	11	16	16	17	28	5	3	658 62		1,977 08		84 82		8 84	28	133 52	11	79 68	98		48	98	905 30	181	306		2	540 87	95 00		5,781 14
October	16	130	3	14	6				1,357 97								1	28	5	10	16	23	8	3	487 65		1,399 84		136 46		12 45	19	80 50	9	63 42	128	1	67	90	993 55	198	38		1	333 45	86 00		4,843 79
November	22	108	11	17	3				1,448 11								17	30	6	11	15	14	8	3	884 30		1,522 04		28 49		7 98	11	70 72	9	30 55	139		40	103	912 16	82	50			246 38	94 00		4,962 31
December	20	115	1	14	5				1,603 38		1		2			84 25	14	32	29	19	51	32	12	1	1,319 66		1,139 75		42 19			27	133 84	3	13 41	137		67	156	1,237 95	18	54			265 50	114 00		5,845 85
Totals	153	1,255	73	196	41	17	11		$16,625 69	2	1	1				$125 26	163	480	252	208	293	225	83	16	$9,080 91		$14,925 58		$1,172 20		$131 91	236	$1,087 15	169	$739 89	1,247	1,233	717	1,345	$13,063 23	660	1,026	38	12	$3,714 37	$885 00	$440 00	$84,114 28

REPAIRS TO AND MAINTENANCE OF METERS AND SERVICES, BILLED—1914

Months	Domestic Services Repaired									Fire Services Repaired							Meters Repaired									Total Cost
	¾	¾	1	1½	2	3	4	6	Cost.	2	3	4	6	8	10	Cost.	¾	¾	1	1½	2	3	4	6	Cost.	
January	11	69	1	3		1	1		$869 66																$12 02	$614 08
February	2	46			1				228 46								6				1	1			24 81	253 27
March	1	103	4	3	1		1		870 14								1	1			1				24 20	894 34
April	32	100	3	3					781 91								1	1			1				26 46	810 37
May	35	77	5	2	1		1		709 48								3	1				1	1		16 79	726 27
June	38	66	2	4					755 47									1					1		6 04	761 51
July	37	93	6						789 33									3		1	1	3			29 85	819 18
August	17	71	1	1			1		497 87								3	3	2	1	2	1			28 40	526 27
September	27	56	1	3	1	2			566 31									3	2	1		1			7 89	568 20
October	14	79	3	3	2				727 55								7	3	2	1	2	1	2		203 70	741 65
November	13	50	2						424 15								11				2	1	1		18 01	442 16
December	2	44	4						303 08								1		2	1		3	1		26 64	329 72
Totals	233	852	34	21	7	3	4		$6,998 51								35	13	8	7	23	23	5		$410 81	$7,415 32

REPAIRS TO AND MAINTENANCE OF VALVES, HYDRANTS AND FOUNTAINS—1914

Months	Valves Repaired.												Hydrants Repaired and Moved.							Fountains Repaired and Moved.		Billed, Cost.	Flushing and Cleaning Fixtures.				Total Cost.
	1	3	4	6	8	10	12	16	20	30	36	40	48	Cost.	Old 4.	Old 5.	Ludlow.	1 Nozzle	2 Nozzle	Repaired Cost.	Moved Cost.	No.	Repaired Cost.	Moved Cost.		Hydrants	Blows.	Fountains	Cost.	
January	6	5	5	10					1	1	1			$1,086 68	30	40		34	10	$697 69	$35 35		$198 62		$74 05				$1,084 00	$2,176 29
February	2	1	1	2	1			1	1	1				403 04	23	28		20	9	175 95			127 60		20 85				1,084 50	2,766 95
March		1		1		2			1					449 57	23	28	1	23	11	675 12	65 80		171 58		31 81				1,101 92	2,225 80
April		4	6	2	2	4				3				764 03	19	33		38	9	540 22			233 15		47 32				767 75	1,952 32
May	1	3	5	14			1		1	1				1,526 21	25	30	1	60	17	957 80	47 59		311 15		79 54				787 00	2,804 96
June	11	6	24	19		1	1		1	1				1,744 21	26	24	4	81	31	1,080 09	89 23		291 57		81 57				814 00	3,125 48
July	2	9	9	9	1	2			2	6		1		1,295 15	36	33		76	6	814 36			575 35		25 71				824 50	2,965 19
August	2	5	17	11		2		2	1	2				1,000 70	35	37		97	12	806 44	44 87	1	300 12		48 51				732 00	2,791 94
September		2	5	11				2	1	2				878 40	36	24	1	62	17	781 53	237 57		103 71		18 15				736 00	2,709 32
October		6	5	13	16	1	1		3			1		1,490 18	42	47		57	15	817 92	49 75		234 34		23 45				853 81	2,979 10
November	1	9	11	18					1					1,027 69	28	33	1	39	16	716 65	17 67		124 08		86 22				652 00	2,618 71
December	11	7	15	25					4		1			734 37	19	26		66	15	838 13	90 29		264 45		16 16				1,072	3,035 75
Totals	29	62	131	136	9	40	6	7	20	17	7	4		$8,806 94	356	404	8	654	168	$9,159 50	$677 88		$3,067 05		$553 44				$11,196	$33,371 00

REPAIRS TO PAVING—BY CITY ENGINEER AND CONTRACTORS—1914.

Months.	Cobble Paving.		Belgian Block.		Vitrified Brick.		Sheet Asphalt.		Asphalt Block.		Bitulithic.		Macadam.		Wood Block.		Total Feet.	Total Cost.
	Sq. Feet.	Cost.	Sq. Feet.	Cost.	Sq. Feet.	Cost.	Sq. Feet.	Cost.	Sq. Feet.	Cost.	Sq. Feet.	Cost.	Sq. Feet.	Cost.	Sq. Feet.	Cost.		
January	5,049	$266 33	2,509	$244 64	193	$42 16	236	$51 32	323	$40 84	41	$13 22	101	$43 96			8,452	$702 47
February							171	45 74									171	45 74
March	11,657	667 07	4,495	327 57	1,154	218 43	2,540	615 76	112	15 75	99	23 94	198	15 13	64	$19 21	20,319	1,902 86
April	19,040	1,001 38	7,327	583 79	349	88 51	35	19 37	118	12 02			30	6 34			26,899	1,711 41
May	11,119	594 49	1,967	132 07	300	56 88	69	19 71			76	24 45					13,531	827 60
June	31,446	1,625 55	9,718	744 08	797	208 23	191	51 06	1,425	307 36	5	5 27			87	31 47	43,669	2,976 02
July	5,317	291 04	2,530	187 27	386	52 83			61	21 23							8,294	552 37
August	5,834	303 10	10,226	633 02	290	63 11	41	10 88	217	29 89	35	12 10	156	45 67			16,799	1,097 77
September	18,309	976 45	1,416	297 54	651	98 01	301	80 29	1,058	232 83			54	20 15			24,789	1,705 27
October	9,488	528 57	2,788	196 91	410	44 03			116	27 69					51	29 07	12,853	826 27
November	21,957	1,116 54	10,612	779 09	455	113 45			851	173 20							33,875	2,182 28
December	12,678	675 02	2,217	194 69	333	81 16	5	8 23	326	73 11							15,559	1,032 21
Totals	151,894	$8,045 54	58,835	$4,320 67	5,318	$1,066 80	3,589	$905 36	4,607	$933 92	256	$78 98	539	$131 25	202	$82 75	225,240	$15,562 27

Paving included in other reports.

OPERATING EXPENSE—1914.

Months.	Inspections.			Repairing Sunken Ditches.		Care of Old City Hall.	Office Assistants.	Emergency Gangs.	Stock Room Labor.	Repairing and Sharpen Tools.	Repair Wagons and Shoeing Horses.	Sundries.	Total Cost.
	Paving.	Street Openings.	Cost.	No.	Cost.	Cost.	Cost.	Cost.	Cost.	Cost.	Cost.	Cost.	
January			$1,837 00	347	$1,375 75	$507 10	$386 38	$476 56	$298 00	$243 20	$341 17	$221 33	$5,686 49
February			1,065 50	237	726 67	406 38	283 45	603 04	223 19	316 92	324 52	285 38	4,235 05
March			1,480 00	383	1,308 85	522 34	326 85	500 58	242 62	315 65	122 88	412 69	5,232 46
April			1,991 50	361	1,212 91	508 00	449 00	343 67	241 12	193 32	254 06	298 55	5,492 13
May			2,278 75	265	1,101 07	543 29	458 18	347 72	271 00	198 38	125 00	341 27	5,664 66
June			2,488 69	557	1,998 27	504 00	450 37	399 21	307 25	187 56	307 19	269 41	6,911 95
July			2,484 81	566	1,659 05	492 04	457 30	401 10	303 50		417 08	626 59	6,841 47
August			2,603 56	599	1,648 26	400 00	465 93	495 07	286 50	266 67	715 51	590 25	7,471 75
September			2,443 75	664	2,095 94	436 50	438 40	597 69	261 25	181 88	498 47	290 38	7,244 26
October			1,661 55	471	1,371 74	412 25	443 43	381 85	227 56	316 28	456 49	558 14	5,829 29
November			1,272 64	484	1,795 65	376 25	404 30	478 67	188 25	209 07	372 42	230 55	5,327 80
December			1,142 71	514	2,056 29	371 68	419 62	569 25	284 00	193 20	613 91		
Totals			$22,750 46	5,448	$18,350 45	$5,479 83	$4,983 21	$5,594 41	$3,134 24	$2,622 13	$4,548 70	$4,433 74	$71,897 17

REPORT OF MECHANICAL DIVISION

BALTIMORE, January 7, 1915.

MR. ROBERT L. CLEMMITT, *Acting Water Engineer,*
City Hall.

DEAR SIR—I herewith respectfully submit my report of the work of the Mechanical Division for the year ending December 31, 1914.

MACHINE SHOP.

Our machine shop manufactures all the fire hydrants used by this Department and also all valves from 2 to 12 inches, inclusive, in diameter. This shop has also been engaged in its usual work of fitting up numerous kinds and sizes of water works equipment, such as valve bodies, bonnets, stuffing boxes, caps, casings, clamps, plug covers, couplings, drains, flanges, fountains, glands, guides, gauges, hydrants, nozzles, nuts, pins, plates, meter parts, rods, screws, drills, valves, valve seats, springs, stops, stand pipes, washers, tools, etc. Considerable time has been consumed in repairs to meters and to 17 automobiles belonging to various Departments of the city. The shop has likewise done sundry work for the other Divisions of the Department and the Municipal Laboratory. In addition, the machine shop has made a number of check valves, drills, irons, nuts, pegs, etc.

PATTERN AND CARPENTER SHOP.

This shop has been employed in fitting up wooden stop boxes, repairing patterns, coal bins, office fixtures, tools, etc. It has also made a number of patterns, blocks, boards, boxes, sliding trays, straight edges, gaskets, mauls, floats, stop planks, wooden plugs, poles, rods, skids, stakes, hubs, wedges, concrete troughs and fountains, etc.

BLACKSMITH SHOP.

This shop has been engaged in shoeing the horses of the Department, in making tools, hose bands, bars, bolts, braces, clamps, cutters, lead furnaces, handles, bale hooks, hydrant keys, gallows and socket keys, pins, finger dial points, lamp stands, etc.; in forging bends, bolts, chisels, clamps, collars, hammers, pipe hangers, knees,

nozzle cap links, nuts, pins, plates, tire rings, valve rods, hydrant screws, brake shoes, struts for I beams, etc., and in miscellaneous repairing principally for the Construction and Mechanical Divisions.

GAY STREET YARD, STORE HOUSE AND PIPE INSPECTION.

The Gay Street Yard force has been used for unloading coal, melting scrap lead into pigs, coating cypress, cutting rails, etc.

The Store House force has been occupied in the receipt and disbursement of supplies, cutting of gaskets and lead washers, mixing of paint, making packing, meter spuds, leather washers, etc.

This Division inspected and looked after the hauling of 1,862 special pipe fittings and 9,870 lengths of pipe of various sizes.

PUMPAGE.

Water Pumped.

Western Pumping Station:

To Western Upper Service, 597,278,934 gallons; cost per 1,000 gallons, 1.98 cents.

To Eastern Upper Service, 199,475,449 gallons; cost per 1,000 gallons, 2.63 cents.

Coal hauled from railroad siding to boiler room coal bin, 47 cars; weight of coal, 4,529,800 pounds.

Water Pumped.

Eastern Pumping Station:

To Eastern High Service, 3,368,647,520 gallons; cost per 1,000 gallons, 0.796 cents.

To Middle Service, 1,421,651,515 gallons; cost per 1,000 gallons, 0.572 cents.

Coal hauled from coal trestle to boiler room, 148 cars; weight of coal, 14,105,600 pounds.

Water Pumped.

Mt. Royal Pumping Station:

To Western High Service, 6,089,942,695 gallons; cost per 1,000 gallons, 0.514 cents.

To Middle Service, 1,829,649,123 gallons; cost per 1,000 gallons, 0.681 cents.

Coal unloaded, 152 cars; weight of coal, 15,232,800 pounds.

COAL UNLOADED ON RAILROAD SIDINGS.

Druid Hill Park, 47 cars; weight of coal,..... 4,529,800 pounds
Gay Street Yard, 148 cars; weight of coal.....14,105,600 pounds
Mt. Royal Pumping Station, 152 cars; weight of coal....15,232,800 pounds

In connection with the above, I beg to report as follows:

MT. ROYAL PUMPING STATION.

Installed new condensor on pumping engine No. 1208.

Replaced broken stuffing box and gland on water engine of No. 1209 engine.

Installed Sarco traps on jackets of engine Nos. 1208 and 1209.

Overhauled No. 1208 engine, exclusive of Boering cylinders and new pistons.

Overhauled discharge valves of pumps No. 1209 engine, also check valves of Nos. 1208 and 1209.

Overhauled ram plunger of Nos. 1208 and 1209 engines. (Reground).

Overhauled steam by-passes on Nos. 1208 and 1209 engines, for heating jackets.

Overhauled oil separator on air line of No. 10 engine.

Feed pump on No. 10 engine (enlarged).

Installed by-pass on boiler feed pump No. 10.

Removed valve operator from suction valve of No. 1209 pump.

Installed new gears on conveyor engine, and provided new governor.

Overhauled conveyor engine (one side).

Fan engine realigned.

Overhauled both dynamo engines, also new Fiel coil.

Overhauled No. 1 boiler feed pump.

Repaired track scale and siding in yard (63 ties).

Installed new jaws on all coal bunkers, also new beams in No. 7 bunkers.

Installed new chute and jaws on ash hopper.

Eastern Pumping Station.

New steam main was installed in boiler room with non-return valves from boilers.

Installed new boiler feed line and connected same with respective boilers.

Replaced steam and exhaust pipes, to auxiliary pumps and damper regulators in basement.

Connected all exhaust lines to Cockran heater.

Overhauled two boiler feed pumps.

Repaired exhaust reheaters and primary feed water heater of pump No. 1207.

Renewed all joints on exhaust pipe, between engines and condensor.

Renewed valve seats of pump No. 839, with a reduction in slip from 24.4 per cent. to 8.8 per cent.

Replaced two superheating headers and tubes in boiler No. 4.

Renewed internal feed pipes and fittings to all boilers.

Cleaned soot from flue and bottom of stack, to improve draft.

The three boilers, 125-horsepower each, from Dredge "Julia" were received and repaired and held for use in case of emergency or while replacing boilers at station.

Western Pumping Station.

Renewing deck on coal trestle at Western Pumping Station siding.

Overhauled valve gears and water ends of pumps Nos. 46 and 90.

Placed new roof on Oil House.

Beginning May 26, Engineers and Oilers were put on for operating station, between 11.30 P. M. and 7.30 A. M., due to increase in consumption on Western Upper Service, also from this date to July 27, it was necessary almost daily to operate simultaneously both pumps Nos. 46 and 90 for the Western Upper Service, due to an abnormal increase in consumption. The Eastern Upper Service, being supplied in so far as possible through the 6-inch by-pass, installed last year. Even with both pumps running as stated, the water surface in standpipe frequently continued to fall until about 8 P. M.

SHOPS.

Erected store-house for lead, Gay Street Yard.
Hangers and shafting for pump drive at Montebello.
Provided timbers and fitted same for cut water at New Loch Raven Dam.
Made concrete forms, for troughs, from revised plans.
Concrete forms, for vault domes, under process of construction.
Special taps for valve seats were made respectively for boiler feed pump; pumps Nos. 1208 and 1209 and pump No. 10.
Made repairs to 6 large valves at various locations.

General—On February 28, 1914, it was necessary to shut down Mt. Royal Pumping Station on account of a break in discharge connection to High Service, south of the station. This break was on 42-inch by 48-inch branch. The station was started up at 11 P. M. on the service to Druid Lake.

Preparations were made to cut out broken branch and replace with temporary straight pipe.

During the time Mt. Royal Pumping Station could not pump to High Service. Both pumps at the Eastern Pumping Station were put on High Service, the division valve at Maryland and North avenues having been opened. Both pumps at the Western Pumping Station were also put on High Service between 11.30 P. M. and 7.30 A. M.

Upon completion of temporary connection, all stations resumed their normal operation.

In conclusion, I wish to commend all the employees under my charge for interest in their work. None have failed to answer any special call I have had to make.

Respectfully submitted,

A. O. BABENDREIER,
Superintendent Mechanical Division.

REPORT OF THE COUNTY DIVISION

BALTIMORE, December 31, 1914.

MR. R. L. CLEMMITT, *Acting Water Engineer.*

DEAR SIR—I submit below the annual report of the operations of the County Division for the year ending December 31, 1914.

The rainfall was less than any year since 1910, it being 35.66 inches on Jones Falls supply, and 34.19 inches on the Gunpowder. The stream flow at times was less than the city's consumption and had it not been for the strenuous efforts made to curtail the waste of water, the city would have faced a famine.

Lake Roland—The water in Lake Roland was too muddy to use for 16 days, and was below the dam 237 days. The maximum flow was 2.9 feet over the dam on April 26, and the minimum 12.1 below the dam on August 3. No water has passed over the dam since May 8. Ninety-eight tons of hypochlorite has been used in purifying the water. Received from the sale of hay, wood, fodder, etc., $655.25.

Jones Falls Conduit—The Jones Falls Conduit continues in good order and has been of no unusual expense.

Hampden Reservoir—The maximum water in Hampden Reservoir was 0.7 above high water line on February 23, the minimum 10.5 below on May 9. The old wooden fence around the house lot has been replaced with a woven wire fence, the stable moved to the rear of the lot, the privy and pump house removed, and a toilet and bath installed in the dwelling. On July 24 this lake was treated with 50 pounds of copper sulphate to remove the algae.

Druid Lake—The maximum water in Druid Lake was 0.7 above high water line on November 16, and the minimum 10.3 below on May 7. On July 24, 550 pounds of copper sulphate were used for the removal of algae. On three of four occasions the railing was damaged by automobiles, but in each case the bills were rendered to the owners.

Loch Raven—The water in Loch Raven was too muddy to use for 49 days and was below the dam 310 days. The maximum flow was 0.9 feet over the crest of the dam on January 4 and the minimum 16.8 feet below on June 17. Received from rent, sale of

wood, etc., $1,754.48. One hundred and eighteen thousand white pine transplants were set in the nursery for next season's planting and 4,800 young trees were set in the nursery for street planting; 24,950 white pine, 1,470 ash, 1,315 black cherry, 4,750 spruce, 1,368 hickory, 697 sugar maple and 1,135 tulip trees were transplanted from the nursery to ground recently acquired on the Water Shed at a cost for labor of $452.

One hundred and ten thousand white pine and 5,000 tulip trees were set in the nursery at a cost of labor of $511, and 1,000 Oriental planes, 1,000 Norway maples, 1,000 American elms, 800 pin oaks, 500 red oaks and 500 ginkas were set in the nursery for future planting along the city streets. The cost of labor was $132.

Lake Montebello—The maximum amount of water in Lake Montebello was 0.9 feet over the waste weir on June 12 and the minimum 17.5 feet below on May 31. Owing to the construction of the Filtration Plant and lining the conduit, this property has not been kept in its usual good condition. Received from the sale of hay, bags, barrels, etc., $238.17.

Lake Clifton—The maximum amount of water in Lake Clifton was 0.5 feet over the waste weir on January 17, and the minimum 19.2 feet below on July 7. For the same reason as at Lake Montebello, this property has not been kept in its usual good condition.

Guilford Reservoir—The maximum amount of water in Guilford Reservoir was 0.85 feet above the high water line on July 26, and the minimum was 3.00 feet below on March 7. The old stable and shed has been removed and the grounds are in good order.

Lake Ashburton—The maximum amount of water in Lake Ashburton was 0.2 feet over the waste weir on December 28, and the minimum 11.8 feet below on March 6. Nothing has been done toward improving the grounds around this lake, but negotiations are being made with the Park Board which I think will result in having them in shape during the coming season.

Water Shed—Our Water Shed patrolman made 1,251 inspections of properties and secured the abatement of 18 nuisances. There were 23 cases of typhoid fever reported during the year; 2 were not on the Water Shed and 6 were in Pennsylvania. The analyses of the drinking water in each case proved to be bad.

Respectfully submitted,

WILLIAM BENTHALL,
Superintendent County Division.

REPORT OF AUDITING DIVISION

BALTIMORE, December 31, 1914.

MR. ROBERT L. CLEMMITT, *Acting Water Engineer.*

DEAR SIR—I submit herewith the report of the Auditing Division for the year ending the above date.

During the year this Division has been engaged in keeping the books of the Department showing its accounts with outside parties and other departments of the city government, in keeping a record of all receipts and disbursements, in making up pay-rolls and paying off all employees, in ordering all materials, taking all inventories and keeping stock ledgers, in keeping a record of all work done on shop orders, checking and comparing all bills, drawing up all warrants and keeping a record of rents, insurance, etc.

Careful attention has been paid during the year to the placing of all orders for supplies required for the Department not covered by contract; competitive prices being always obtained except for small emergency orders.

Good results were again obtained from the system of accounts installed in 1900, the difference between the inventory of the Mechanical Division and the stock ledgers being $72.26 out of a total stock of $96,316.73, while the Construction Division shows a difference of $17.88 out of a total stock of $5,767.73.

Four thousand four hundred and twenty-nine orders for materials were placed during the year, as against 4,067 for 1913.

I herewith present the annual statements showing the assets and liabilities of the Department, the gross receipts and total disbursements, and disbursements from each of the 11 appropriation accounts.

I again take pleasure in commending the work of the employees of this Division for the able, intelligent and conscientious manner in which they have performed their respective duties and their cheerful response to every request I have made of them.

Respectfully yours,

CHAS. W. NAGLE, *Auditor.*

STATEMENT OF RECEIPTS AND DISBURSEMENTS FOR 1914.

Receipts.

Amount received from water rents	$851,993 31	
Less returned	1,854 70	
		$850,138 61
Meter rents		559,202 39
Plumbing bills		72,152 19
Meter plumbing bills		5,815 04
Interest		2,928 82
Turn-offs		243 00
Vacancies		653 00
Markets		333 00
Pitometer survey		561 00
Sales old materials, rents, etc		8,778 30
Total		$1,500,805 35

Disbursements.

Water Engineer's Department:		
Expenses	$471,336 29	
Meters	2,009 02	
Salaries	101,645 92	
Collector Water Rents and Licenses:		
Expenses	2,758 64	
Salaries	29,553 33	
Interest	398,333 33	
Sinking funds	22,193 25	
		1,027,829 78
Surplus to general treasury		$472,975 57

STATEMENT OF ASSETS AND LIABILITIES TO DECEMBER 31, 1914.

Assets.	Accounts Receivable.	Tools and Machinery.	Furniture and Fixtures.	Horses, Wagons, Autos, Etc.	Mains Laid.	Land, Construction and Real Estate.	Sinking Funds.	Stock on Hand December 31, 1914.
Water Board	$225,161 89	$130,322 71	$1,247 15		$5,795,811 73		$5,458,698 65	
Engineering Division		3,118 63	5,756 73	$899 90				
Lake Montebello		1,516 70	272 67	1,166 30		$1,149,648 07		
Lake Clifton		6,132 60				729,832 63		
Mt. Royal Reservoir		38 05				133,162 35		
Druid Lake		8,951 34	22 00	283 50		1,334,773 92		
Hampden Reservoir		193 15				226,043 53		
Western High Service		40 50				112,518 57		
Guilford Reservoir		76 90				165,410 74		
Harper's Waste Weir		26 00						
Loch Raven		1,574 23		2,965 05		881,051 83		
Water Shed Patrol			43 70	310 00				
Gunpowder Conduit						1,779,610 24		
Lake Roland		475 73	24 75	524 00		379,217 51		
Jones Falls Conduit						569,043 35		
West Arlington Standpipe		84 12				42,167 74		
Roland Standpipe		306 63				52,712 38		
Ashburton Lake		13 88	31 36			749,720 15		
County Division				627 80				
Construction Division		17,351 29	4,356 32	14,877 52		30,524 61		$5,767 73
Western Pumping Station		78,155 02	180 91	389 40		53,577 00		
Eastern Pumping Station		87,322 88	298 72			88,860 82		
Meter Room		1,696 55	138 95					
Mt. Royal Pumping Station		334,328 31	852 08			240,891 00		
Machine Shop		30,406 44	109 34			39,794 53		
Mechanical Division		27,122 77	1,565 50	2,469 50				96,316 73
Stable, Gay Street Yard						15,368 46		
Storehouse, Gay Street Yard		264 13	997 53			30,755 15		
Blacksmith Shop						1,141 48		
Auditing Division			2,557 12					25 00
Gunpowder Division		5,477 30	2,068 22	3,812 17		683,900 13		
Filtration Division		3,273 20	916 34			866,161 90		
New Loch Raven Dam						901,463 86		
Lead Storage House						162 20		
Total Accounts Receivable	$225,161 89							
Total Tools and Machinery	738,269 06	$738,269 06						
Total Furniture and Fixtures	21,439 39		$21,439 39					
Total Horses, Wagons, Autos, etc	28,325 14			$28,325 14				
Total Mains Laid	5,795,811 73				$5,795,811 73			
Total Land, Contruction, Real Estate	11,257,514 15					$11,257,514 15		
Total Sinking Funds	5,458,698 65						$5,458,698 65	
Total Stock on Hand	102,109 46							$102,109 46
Total Assets	$23,627,329 47							

Liabilities.	Accounts Payable. Special Appropriations.	Accounts Payable.	Loans.
Water Board	$131,085 18	$47,544 79	$12,600,000 00
Total Accounts Payable		$178,629 97	
Total Loans		12,600,000 00	$12,600,000 00
Total Liabilities		$12,778,629 97	

Total Assets	$23,627,329 47
Total Liabilities	12,778,629 97
Excess Assets Over Liabilities	$10,848,699 50

STATEMENT OF EXPENDITURES FOR 1914

Months	Meters	Salaries	Extension of Water System under the Act	Filtration and G. S. I. Division Stations	Pitometer Survey for Underground Leaks	Cleaning Mains in Advance of Filtration	New Pumps and Boilers Mt. Royal Pumping Station	Work in Advance of Improved Paving	30in. Main Riggs Avenue	Repairs to Pumping Stations
January	$2,470 69	$12,849 19	$101,934 95	$9,251 27	$932 24	$93 34	$5,397 55	$16,598 18		
February	192 78	8,616 64	60,463 79	6,107 48	600 54		3,089 95	14,366 68		
March	436 19	4,508 53	41,589 79	3,041 14	515 29		2,679 29	10,149 09		
April	1,500 72	8,798 08	32,634 32	6,295 51	785 54		2,091 01	22,293 13		
May	289 54	12,593 63	145,886 45	9,836 79	2,102 56		2,761 45	28,916 10	$27,528 84	
June	1,341 82	8,557 84	171,275 10	6,720 00	1,859 58		1,243 78	19,004 22	2,653 13	
July	296 78	8,428 52	99,199 00	6,494 99	1,904 17		1,055 57	20,114 41	4,049 96	$3,759 59
August	576 85	8,428 20	118,971 60	7,012 44	1,785 82		1,750 50	20,968 20	2,392 72	
September	255 25	8,428 27	111,457 29	5,654 18	1,404 31		951 45	24,164 01	1,050 25	
October	88 01	8,428 78	169,289 12	5,516 68	1,241 53		41 25	17,723 18	2,569 22	
November	4 17	4,214 18	11,256 40	2,762 54	624 53	251 24		6,529 09	647 53	
December		8,428 40	124,611 16	5,444 21	795 10	19 00		4,083 42	262 07	
Totals	$7,824 06	$104,615 92	$1,311,966 27	$72,038 80	$14,850 26	$363 58	$21,710 18	$200,167 99	$38,235 00	$3,759 59
Receipts from sale of old material	2,815 01									
Transferred to expense account								51 82 01		
Transferred from 1913										
Net Totals	$7,009 05	$104,615 92		$72,038 80	$14,850 26	$363 58	$21,710 18	$200,167 99	$38,235 00	$3,759 59

CHARGED TO WATER ENGINEER'S DEPARTMENT

Months	Boiler Stores and Repairs	Oil	Engine and Dynamo	Fuel	Labor	Hardware	Iron and Machinery	Cast Iron Pipe	Cast Iron Fittings	Special Iron Castings	Valves	Wrought Iron Pipe and Fittings	Service Pipe	Brass Service Pipe Connections	Brass Castings	Bar Iron and Steel	Lead	Lumber	Rope and Packing	Grease Paints and Oils	Rubber	Brick, Stone and Cement	Sand, Gravel and Ashes	Coal	Insurance	Casual Expenses	Miscellaneous and Incidentals	Car Expense	Main and Office	Maintenance of Automobiles	Fire Protection Water Rents	Taxes
January	$341 36	$4 00	$119 00	$7,829 26	$20,959	$ 82 29		$7,251 20	$4,180 12	$2,092 95		$145 80	$2,459 67	$852 56	$97 50	$60 03	$1,071 78	$439 80	$119 01	$717 84	$298 74	$296 00	$49 05	$58 12		$158 45	$2,066 91	$1,139 76	$2,366 80	$28 10		$1,144 45
February	8 64		14 48	4,475 70	20,895			11,108 60	1,088 73	1,757 85	$76 00	279 00	208 75	891 73	1,359 50	74 51	12,676 00	851 98	112 57	411 02	7 75	88 40	30 60	1,060	$112 79	164 77	2,471 95	1,261 95	1,747 80	28 10		1,144 45
March	144		14 48	851 18	24,792 4			187 87	921 16	1,121 26		242 00		1,072 12	188 55	8 98	795 84	253 10	155 85	374 56	176 10	52 45	20 00			196 12	1,139 76	1,747 80			1,144 45
April	166 98	4 00	8 00	8,711 20	20,878 4	6 97		2,745 81	1,534 45	1,571 65		242 00		1,280 47	1,228 95	542 94		206 58	242 95	429 95	26 10		6 30	1,106 62		1,178 84	1,747 80			1,144 45
May	7 20		4 00	7 01	21,838 94			8,851 79	1,315 52	1,050 04	1,205 00	140 00		950 47	1,401 85			158 86	103 28	242 95	39 10	146 20	7 10	198		1,178 84	1,747 80		27 00		1,144 45
June	7 20			6,047 06	21,838 94	1 70	27	1,341 50	858 84	1,914 24	132 50			1,284 10								125 65	10 70	2 50		1,747 80					
July	107 61			9,167 10	28,165			2,231 11	2,246 86	1,122 04		242 00		1,035 38	1,401 85	7 99		50	186 27	377 30	186 27	361 84	245 45	70 10	184 00	281 26	1,747 80				
August	151 15			13,150 86	21,503			6,853 64	1,345 15	1,534 05		266 23		987 40		47 36		311 95	70 14	369 10	70 10	369 65	292 65	70 10		281 26	1,747 80		30 00		
September	329 43	4 00		9,824 20	21,503	1 70		4,506 92	909 74	1,258 37	580 00			1,241 24	1,079 24	101 09		91	116 59	548 17	116 59	145 25	70 10			1,747 80			20 00		
October	305 88	4 00		9,461 05	21,503				90 17	1,243 14		80 62		1,464 47	349 85	6 45		302 85	116 59	443 37	291 17	109 50	7 00		28 50	1,747 80					
November	101 16			96 26	21,838 94				1,792 60	1,792 60		32 67		509 96		46 45		150 61	139 87	448 47		55 00	7 80			1,747 80					
December				111 16	21,971										1,408 48																
Totals	$1,678 55	$24 00	$1,097 91	$ 96,707	$ 314,638 7	$14 50	27	$70,063 04	$12,764 50	$19,368 03	$1,993 50	$1,485 96	$16,227 27	$12,422 22	$8,059 97	$852 11	$17,559 26	$4,067 64	$1,910 80	$4,415 89	$1,842 26	$1,358 94	$250 86	$64 32 95	$927 00	$119 15	$30,110 87	$11,192 71	$20,982 06	$1,837 11	$100 00	$7,470
Make Receipts Vernon Main																															$74

REPORT OF GUNPOWDER SUPPLY IMPROVEMENT DIVISION

BALTIMORE, March 1, 1915.

MR. ROBERT L. CLEMMITT, *Acting Water Engineer.*

DEAR SIR—I beg to submit herewith report of work completed and under contract prior to January 1, 1915.

Respectfully,

P. A. BEATTY, *Division Engineer.*

FINAL REPORT ON CONTRACT No. 1—GUNPOWDER DAM.

Design of Dam.

Before beginning on the design of the dam, a thorough study was made of all available data on masonry dam design, and the following data decided upon:

The weight of concrete taken at 150 lbs. per cubic foot and a head due to water 8 feet over spillway section. Upward pressure on horizontal joints and base equivalent to two-thirds the head at the upstream face diminishing to zero at the downstream face of the dam. The formulae used in the design were taken from "High Masonry Dam Design" by Morrison and Brodie. The head of 8 feet over the spillway section corresponded to the maximum flood recorded on the Gunpowder River during the preceding thirty years. The design makes the line of pressure fall within the middle third with reservoir empty or full. A theoretical profile of the spillway section was designed and a corresponding one for the end section. A uniform latter and the proper curves were then given these profiles and final cross sections made and examined graphically for horizontal static pressure on the upstream face of the dam, and on the spillway section, in addition, a uniform upward pressure on the base due to a head of 39 feet in the lower lake. The accompanying diagram shows the final resultants and pressures at the heel and toe. It will be noted that neglecting upward water pressure, the lines of pressure fall well within the middle third.

To prevent probable unknown stresses due to internal water pressure, it was decided to incorporate a drainage system in the dam, and to this end, a study was made of the systems used at the Olive Bridge and Kensico Dams; and it was endeavored to improve upon these. To this end, a certain thickness or skin of concrete on the upstream face was composed of 1:2:4 mix, and designed to be constructed in 8-foot lifts, between expansion joints, 60 feet more or less apart. Into the top of each lift a groove was moulded 8 inches deep and 14 inches wide, terminating at each expansion joint in a 2-foot by 3-foot vertical well. In these grooves porous concrete pipe or blocks with a 6-inch bore were laid. Thus, any water following the expansion joint will drop into the well, and any water following the horizontal joints will reach the porous blocks and be led to the wells. The wells open near their foot into a 3-foot by 8-foot gallery, paralleling the axis of the dam, pressure in which is relieved by two lines of 12-inch pipe, as designed, into the pool below the dam.

The passage of water through expansion joints and horizontal joints was obstructed by bonding grooves.

This drainage system still further increased the factor of safety. There was also provided a system of sub-drains, consisting of vitrified pipe laid with open joints in gravel on the rock floor and on the lower side of the cut-off trench, to intercept any seepage through seams or between rock and concrete, and these are collected into risers which discharge horizontally near the toe of the dam.

The dam footing was expected to be approximately at elevation 140 A. M. T. at the lowest part of the stream bed, with the cut-off wall extending to possibly 110 A. M. T. The crest was to be at elevation 233.5 with deck at 252.5.

On the spillway section, the base was to be 74.49 feet to a height of 93.5 feet and for the abutment section the base was to be 74.49 feet to a height of 112.5 feet.

As actually constructed, the base was 85 feet 7 inches from upstream face to face of ogee, with an apron 30 feet 6 inches wide, or a total width from upper to lower face of structure of 116 feet 1-inch.

Between faces of abutments the length of spillway was to be 282 feet, obstructed with four 8-foot piers, carrying a reinforced concrete bridge consisting of five 50-foot clear spans. The total length between the hills at deck elevation, 252.5 A. M. T., was expected to be 668 feet.

The control was in the gate house at the west end of the dam, where the surplus head, with the lake above a certain stage, was to be utilized to operate two turbines, thus absorbing the surplus energy developed in dropping from lake level to conduit and furnishing power therewith.

Storage batteries were to have been provided to store the surplus power, which would enable the periods of low head and power to be bridged.

Owing to difficulties experienced in the acquisition of property within the area to be flooded, orders were issued to reduce the crest elevation to 192 A. M. T., which would produce a corresponding reduction in the storage capacity from 20,000,000,000 gallons to 2,000,000,000 gallons, and in the estimated cost of the structure, from $654,000 to $440,000.

It was decided, however, to construct the foundation according to the original designs, so that the high dam could be constructed without further excavation within the river bed or the necessity of a cofferdam.

Thus, in the spillway section, below elevation 164 A. M. T., the original plans have been carried out; on the abutment sections the high dam section is carried practically to 200 A. M. T.

Preliminary to actual construction a standard gauge spur 1.3 miles long, giving communication between the Maryland and Pennsylvania Railroad and the dam site, was constructed, grading being started March 21, 1912. The track was turned over to the contractors July 11, 1912. The cost of spur complete was $12,818.21. An office and bungalow for the Assistant Division Engineer and a bungalow for the Chief of Police were erected, the remaining men either boarding with the gatekeeper, or in the vicinity, or living in town.

Contract No. 1.

On March 6, 1912, bids were opened on Contract No. 1, a cyclopean masonry dam to be constructed at Loch Raven, at a distance of 2,600 feet above the existing dam. The contract was awarded to the King-Ganey Contracting Company, of New York City, on April 8, 1912, the estimated cost being $374,884.40. The contract time was 400 working days (later reduced to 300 working days). Work was formally begun on June 7, 1912, in the presence of the Mayor and other officials of Baltimore. The location is between high bluffs on the Gunpowder River, 300 feet apart at water level of 171.0 A. M. T. A driveway situated on a berme on the west side, 11 feet above the elevation of the old dam crest, was to be aban-

doned and a new road built along the west hillside at such an elevation as to be practically level with the deck of the proposed high dam (elevation 252.5); a temporary roadway around the end of the dam was completed along the hillside at the west end of the dam on November 15, 1912, at a cost of $3,248.17, and the old river drive abandoned. The first cofferdam consisted of two lines of Lackawanna steel sheet piling, tied together with 1¼-inch tie rods placed 3 feet below the top. The pile sections, ⅝-inch thick, driving 14 inches wide, weight 35 lbs. per linear foot, and placed 20 feet apart, extending from the west river bank, were driven to rock, enclosing a space 220 feet on the dam axis and 220 feet on the stream axis. The average head was 23 feet. This left a channel along the east bank 80 feet wide at elevation 171.2. The space between the lines of piling was filled with material dredged from within the cofferdam with orange peel and clam shell buckets operated from derricks, four of which were placed on pile clusters just within the cofferdam, and two on the west bank of the river (see construction plan) in such a manner as to command practically the whole area. The material overlying the rock consisted principally of silt and clay, making an ideal sealing material, and very little trouble was experienced with leakage either through or under the cofferdam, after the filling material had settled.

The rock was exposed and drills were placed October 11, 1912. The excavation extended on an average to 20 feet in depth over the foundation area, while the cut-off wall excavation was carried to an average depth of 23 feet below the original rock surface. The rock was hard, seamy mica schist, with a dip of approximately 20 degrees to the west, and a strike of a few degrees east of north (about 70 degrees with the dam axis), which, upon exposure to the sun and weather, showed a tendency to open up, or separate, along the seams, necessitating considerable wedging and clearing away of the loosened masses. The surface was left exceedingly rough, the rock breaking along the strike in such a manner as to leave a series of sawtooth ridges, with depressions between, in which were laid the sub-drains, thus avoiding the necessity of excavating trenches. Most of the waste was spoiled in the basin above the dam.

Concreting was begun on December 28, 1912, in cut-off trench, and December 2, 1912, in foundation, a 1:2:4 mix being used.

On September 25, 1912, high water threatened the cofferdam, flowing over the channel wall; but a bulkhead was erected here, and soon afterward the water fell. To prevent any inward move-

ment of the clay overlying bed rock in which the foot of the cofferdam piles was embedded, large boulders from the quarry were piled against the inner slope, to be removed after the danger was over and embedded in the concrete.

On this portion of the dam, the concrete was run monolithically between expansion joints, forms paralleling the dam's axis being so set as to permit a block some feet thick to be cast at one run; care being taken to so arrange them as to break joints vertically and interlock in such a way as to effectually resist any thrust from the upstream side. Two relief openings, 25 feet wide, with bottoms at 151 and 155 respectively, were left in this section. Large plum stones, projecting but well embedded, were set at frequent intervals to bond with future work.

On April 15, 1913, the cofferdam was broken preparatory to removal, and the water was turned through the relief openings.

The construction of the channel wall of the east cofferdam was begun on February 15, 1913, being built in the manner hereinafter described. The upstream and downstream walls of the dam were carried through to the east river bank, and backfilled as on the west side. The bottom of the channel had been scoured so that but a small amount of good material remained over the rock for the piling to toe into. The success of the west cofferdam had bred overconfidence in the contractors, and made them indisposed to listen to suggestions of the Engineer, and his advice that provision be made for attaching the cofferdam walls to the completed portion of the dam was ignored. It was, and is the writer's opinion, that in a case of this kind, it is entirely proper to force the contractor to take obvious necessary precautions, but in this opinion he was not supported, and the contractor was permitted to follow his own plan, which consisted of building two parallel walls of 2-inch by 12-inch by 12-foot plank, 20 feet apart, standing vertically on the concrete of the completed portion, and nailed to timber battens, restrained by old steel cables. To keep the toe from kicking out, a line of rock was piled along it. The space between the planking was then filled with material, no great effort being made to keep out the rock. As there was no cross bracing, the planking was soon knocked pretty badly out of shape, but ultimately was straightened up and filled. At the upper and lower sides of the dam, an effort was made to get a tight joint with the concrete by driving the piling closely against the concrete. These efforts were unsuccessful and a great deal of time and effort were spent in trying to make the work tight. A concrete wall was finally

constructed along the inner side of the channel wall on the dam concrete, which proved efficacious. The leak at the junction of the cofferdam with the upstream face of the dam was not controlled until the east relief opening had been practically entirely blocked with material dumped outside of the coffer wall to cut off the flow behind and beneath it. At the downstream end of the channel wall, the water never was fully controlled until preparations were made to concrete, when it was led to a sump through a pipe beneath the concrete. When the latter was brought high enough, the pipe was blocked, and the sump established outside of the concrete, preventing further flooding of the work. This trouble, unfortunately, not only cost the contractor much time and money, but led to a demoralization of the organization and caused further delay. The force was finally reorganized and the work proceeded.

On the east side, the rock was overlaid with a few inches of good sand and gravel over the larger part of the exposed area, and this was removed and later used in construction. Except for a small area of gabbro uncovered in the southeast corner of the foundation, the material consisted of mica schist as on the west side, much seamed and showing a great tendency to scale and loosen up in large pieces, when exposed for a short while. The dip along the fault was rather north then west, but on the whole, the bottom was similar and similarly treated. On the east side a number of 2-inch holes were drilled into the rock and grout pipe cemented in. Grout poured into these pipes and put under about 70 lbs. air pressure before concrete was placed over the adjacent rock, frequently blew out at an uncemented seam nearby, or more distant, as the case might be. The rock was then concreted over to a depth of some feet, the pipe being carried through the concrete, after which it was found, in most cases, impossible to drive any considerable portion of the grout into the rock except at one hole, where the ease with which the grout was blown out of the pipe seemed to indicate the establishment of a direct communication with an underdrain, and grouting here was discontinued. The grouting must be regarded as a failure in this particular work, with the methods used.

On the east side, the method of concreting was changed, at the request of the contractors. Instead of building bulkheads paralleling the dam's axis and concreting blocks between expansion joints some feet in depth, the contractor was allowed to concrete over a broad area, with corresponding thinness of deposit. To obtain thicker layers, "ricks" consisting of boulders, with spaces filled

with smaller stone, were sometimes built to replace the forms used in the west side, and dry concrete placed along the "ricks" to hold the more fluid mix subsequently poured. It was argued that porosity caused by this method was unimportant, because this portion of the dam was simply intended to resist pressure, any water passing the drainage system being by this method assisted in finding an outlet.

Substantial modifications of the original low dam plans were made as follows:

Abandonment of five 60-inch pipe through the dam and substitution of two 48-inch pipe. This rendered unnecessary and caused the abandonment of the bridge, and all but two of the piers.

Openings were provided on the steps of the dam for entrance to the gallery. These were nothing more than the continuation of the gallery stair as provided on the high dam plans. These are closed with concrete slabs. The stair leading to the deck of the low dam was abandoned and a shaft substituted.

On September 19, 1912, it was determined to excavate for and place concrete for the high dam foundations at either end, so that it would be unnecessary to do any shooting adjacent to the dam hereafter.

On the west side this consisted simply of cutting back into the rock sufficiently to receive the foundations and placing the concrete therein in stepped sections, provided with drainage and bonding grooves along the upper face for connection with future work.

On the east side, owing to the sharp dip west, here about 45 degrees, which the rock took toward the river, the matter was more serious.

There was a slip consisting of about 1,500 cubic yards on June 24, 1913, when excavation for the low dam was progressing, and additional slips were inevitable as the rock was disturbed further east.

On November 16, 1913, although great care had been exercised in locating, loading and shooting the holes, a slip of 2,600 cubic yards took place, carrying away two derricks and the railway trestle spanning the excavation. The payment for this slip and for the extra concrete and excavation for the high dam was arranged for under an especial agreement, and the work proceeded smoothly to the completion of the dam. On the east side, the concrete was brought to elevation 202 over the cut-off wall, except at the extreme end where contact was not made with the rock above elevation 181.0, it being necessary here to cut still further into the rock face to obtain a proper bond, but undesirable to disturb the

very fair existing rock face at this time. South of the cut-off wall the concrete stopped at elevation 199.0.

On the west side, south of the gate house, the concrete was stopped at elevation 199.0, except at the cut-off wall, where it rose in successive steps to elevation 245.0 beneath the existing roadway.

The clear length of crest between piers at elevation 188 A. M. T. is 321 feet. Upon this a form of movable crest, or flashboards, will be erected, to raise the water to elevation 192, which is the elevation of the concrete spillway between piers and abutments, each with a length of 23.83 feet. From rock to rock, at elevation 202 (the highest concrete of the low dam proper, and gate house floor level) the distance is 585.0 feet.

Layout.

The contractors constructed a trestle across the river below the old dam in order to reach a quarry situated on the city's property, from which the major part of the stone used was taken. The loaded cars were hauled from the quarry to the crusher, a distance of 0.9 of a mile with dinkey engines, over a track which, carried on a hillside bench, ascended on a 3 per cent. grade from the berme at elevation 182 A. M. T., to elevation 195 at the crusher platforms. Here the stone was fed into a No. 6 McCully gyratory crusher and dropped into a pocket, from which a bucket conveyor took it to the screens over the bins; the rejected stone passed through a No. 3 McCully crusher to sand rolls and dropping into the same pocket, passed thence to the screens.

Sand was fed direct to the hoist pocket and lifted to the bins. The mixing plant was set beside the crusher. Stone and sand were fed by pocket conveyor to bins on top of the mixing tower, and discharged through gate-controlled apertures into a receiving hopper where cement was added, the latter being brought across a bridge from cars on the same spur track used to deliver stone to the crusher. The materials passed thence to the mixer (a No. 5 Smith with a rated capacity of 48 cubic yards per hour), and were discharged into a hopper and from this dropped into the buckets on flat cars and hauled to the derricks.

The air compressor ran the quarry drills and most of the derricks. The crusher and mixer were run by steam. The following equipment was used:

At the quarry, four large Murphy drills and two 8-ton guy derricks, all run by compressed air.

At the crusher, one No. 3 and one No. 6 McCully crusher with screens, hoist, rolls, etc., run by two boilers, one 40-horsepower Nagle and one 100-horsepower Ames.

A 7-ton stiffleg derrick was used in handling the rock from the cars to the crusher. The rolling stock consisted of three 20-ton Vulcan locomotives, six 15-ton flat cars and eight 6-yard dump cars.

On the dam, two stiffleg derricks of 8 and 10 tons capacity each, were used, run by compressed air; six 8-ton guy derricks run by compressed air; two 8-ton guy derricks run by steam. The contractor had six large Murphy drills, two small Murphy drills and three Jap drills for rock excavation at the dam.

The pumping plant consisted of one No. 8 Cameron pump, capacity 100 gallons per minute; one Lawrence centrifugal pump, capacity 2,000 gallons per minute; three Worthington pumps, capacity 125 gallons per minute each; one Blake pump, capacity 125 gallons per minute; one Dean pump, capacity 700 gallons per minute.

The two guy derricks at the dam and the pumps were run by one 25-horsepower Nagle boiler, one 40-horsepower Nagle boiler and one 60-horsepower Nagle boiler.

The contractor had a standard gauge track from the quarry which connected to the spur track built by the city. He had 37 tons of 60-pound rail and 84 tons of 55-pound rail.

The following are the itemized costs to the city:

Paid on estimates	$474,016 97
Paid on force accounts	16,644 80
Paid for material furnished by the city	3,729 41
Paid to contractor for rail	179 00
Cost of spur track built by the city	12,818 21
Cost of engineering	10,376 62
Cost of inspection	7,811 00
Cost of maintenance	1,449 15
Cost of transportation	400 00
Total	$527,425 16

ITEMS NOT CONTEMPLATED IN ORIGINAL ESTIMATE.

Excavation for high dam, 10,383 cubic yards @ $1.30	$13,497 90	Ext. W. O. No. 2
Concrete for high dam foundation, 6,808 cubic yards @ $6.75	45,954 00	
Excavation below line, 5 feet below foundation, 2,929 cubic yards @ $3.50	10,251 50	
Excavation of slide of November 16, 1913, 2,650 cubic yards @ $2.00	5,300 00	
Construction of west gate vault, extra work order No. 3	800 00	
Construction of east gate vault, extra work order No. 7	500 00	
Total	$76,303 40	

EXTRA WORK ORDERS.

No. 1—Temporary road around dam		$3,248 17
No. 2—High dam excavation and concrete		59,451 90
No. 3—Construction of gate vault, west side		800 00
No. 4—Cut, chip and shift 24-inch drain and 48-inch sluice pipe		202 70
No. 5—Repair trestle on spur track		46 12
No. 6—Item No. 1—Make repairs to temporary road	$2 87	
Item No. 2—Place steel plate in joint between conduit and dam	6 20	
Item No. 3—Cut out old cradles at junction of conduit and dam	5 51	
Item No. 4—Cut out reinforcing bars, as directed	3 26	
Item No. 5—Furnish steam hammer for driving piles at Shanghai and Towson Runs	49 35	
		61 19
No. 7—Construction of east gate vault		500 00
No. 8—Construction of cut waters		122 45
No. 9—Closing relief opening		11,129 97
No. 10—Setting "I" beams		98 42
No. 11—Erection of derricks which were displaced by slide on the east side		435 78
Total cost of extra work		$76,096 70
Extra Work Order No. 2, paid for on estimate		59,451 90
Paid for under separate bills		$16,644 80

GENERAL DATA.

63,895 Barrels of cement used in dam.
23,682 Batches of 1 :2½ :5 concrete used in dam.
31,064 Batches of 1 :2 :4 concrete used in dam.
522 Batches of 1 :1 mortar used in dam.
8,110 Cubic yards of stone dust used in dam.
12,166 Cubic yards of sand used in dam.
40,552 Cubic yards of stone and gravel used in dam.
10,099 Cubic yards of plum stone used in dam—20 per cent. plum stones.

COST SHEET OF WORK ON CONTRACT No. 1, NEW LOCH RAVEN DAM,

King-Ganey Contracting Company, Contractors.

Items.	Units.	Final Quantities.	Contractor's Bid Units.	Contractor's Unit Costs.	Final Estimate.	Actual Cost to Contractor.
Clearing and grubbing					$125 00	$93 49
Furnishing material for cofferdam, erecting, maintenance and pumping					56,000 00	43,512 26
Earth excavation for foundations	Cu. Yds.	25,455	$0 90		23,809 50	
Loose rock for foundations	Cu. Yds.	3,102	1 30		4,032 60	
Solid rock for foundations	Cu. Yds.	32,503	1 30		42,253 90	
Excavation of slide of November 16, 1913	Cu. Yds.	2,650	2 00	$1 435	5,300 00	97,058 97
Excavation below line 5′ below foundation shown on plans	Cu. Yds.	2,929	3 50		10,251 50	
Solid rock excavation for cut-off and drain trenches	Cu. Yds.	5,213	4 00	6 90	20,852 00	35,952 87
Drilling holes in rock or concrete	Lin. Ft.	274	30	25	82 20	67 47
Furnishing and placing cement grout	Bags Cem.	17	1 00	1 94	17 00	33 02
Furnishing and placing wrought-iron pipe for grouting	Lin. Ft.	400	20	15	80 00	60 00
Furnishing and placing 12″ vitrified pipe drains	Lin. Ft.	655	50	60	327 50	391 96
Furnishing and placing 6″ vitrified pipe drains	Lin. Ft.	1,212	30	34	363 60	416 64
Furnishing and placing gravel around drains	Cu. Yds.	41	2 50	2 00	102 50	82 00
Furnishing and placing concrete block drains (porous)	Lin. Ft.	2,760	50	45	1,380 00	1,256 20
1 :2 :4 mass concrete in cut-off wall and dam	Cu. Yds.	21,575	5 75	5 24	124,056 25	133,218 98
1 :2 :4 concrete around conduits	Cu. Yds.	426	8 00		3,408 00	
Concrete for high dam foundation, extra work order No. 2	Cu. Yds.	6,808	6 75	5 065	45,954 00	128,676 17
1 :2½ :5 mass concrete in dam, retaining wall and wing walls	Cu. Yds.	22,002	5 00		110,010 00	
Steel and timber bridge over spillway of dam						
Placing 60″ cast-iron pipe sluices	Lin. Ft.		2 60			
Placing 60″ sluice gates and appurtenances	Each		50 00			
Placing 48″ sluice gates and appurtenances	Each	2	50 00	35 00	100 00	70 00
Furnishing and placing gratings for 60 ″ sluice gates	Each		50 00			
Furnishing and placing gratings for 48″ sluice gates	Each	2	50 00	183 05	100 00	366 10
1 :2 :4 concrete in Gate House sub-structure	Cu. Yds.	3,579	6 50	5 105	23,263 50	18,272 43
Furnishing and placing steel reinforcing bars	Lbs.	28,373	0 04	0 029	1,134 92	822 82
Placing 48″ cast-iron pipe	Lin. Ft.	156	2 60	1 92	405 60	300 00
Placing 24″ cast-iron drain pipe	Lin. Ft.	178	1 30	1 12	231 40	200 00
Placing 24″ drain sluice gates and appurtenances	Each	4	30 00	25 00	120 00	100 00
Placing rectangular sluice gates and appurtenances	Each	4	50 00	40 00	200 00	160 00
Furnishing and placing steel ladders	Lin. Ft.				56 00	53 25
Construction of gate vault on west side, extra work order No. 3					*800 00	29 01
Construction of gate vault on east side, extra work order No. 7					*500 00	
Totals					$475,316 97	$461,193 64
Amount paid to contractor on extra work orders and not shown above					15,344 80	
Total cost to the city					$490,661 77	

* Costs included in 1 :2½ :5 concrete.

CEMENT.

Brand of Cement, Alpha.

Samples taken by Pittsburgh Testing Laboratory.
Tested by Municipal Testing Laboratory.
Average initial set 4 hours.
Average final set—5 hours.
Average tensile strength of neat briquettes at 7 days 650 pounds.
Average tensile strength of 1:3 mortar briquettes at 7 days 275 pounds.

ADDENDUM.

The following are the general drawings of the proposed high dam, for which the existing structure will furnish the foundation. A carefully arranged drainage system, a liberal use of steel anchorages, a thorough roughening and cleansing of the surfaces of the old concrete, and proper precautions to insure the closest bond between the old concrete and the new, will be required to obtain the best results when the new portion is constructed on the old.

Mr. J. T. Todd was Resident Engineer until August, 1913, when he resigned to become superintendent for the contractors. He was succeeded by Mr. E. L. Pattison.

CLOSING WEST RELIEF OPENING IN GUNPOWDER DAM.

In February, 1914, it was decided to close the west relief opening, before the contractor's organization was dispersed. This was done on force account, the contractor agreeing, however, to dredge out any stone or other material obstructing the opening or upstream approach. The mass of material obstructing the east relief opening was first moved, so that the water might have a clear outlet. Ultimately, after considerable trouble, and after a diver had been employed to make fast to some large boulders which had slipped down in front of it, the west relief opening was cleared, and three gates were placed, obstructing it to elevation 171.0. These gates were 10-inch by 12-inch Y. P. timber 29 feet long, bolted together and loaded with railroad rail. The span was broken by a 12-inch by 12-inch timber driven vertically on the upstream side of the gate and supported by struts carrying the thrust to the masonry. The gates were not made tight until a quantity of material, dredged from the river bed, had been deposited on the upstream side of them, so they simply acted as a bulkhead to retain an earthen dam. The gate at the downstream end of the opening was built of 12-inch by 12-inch timbers as a framework, with 2-inch T. and G. sheeting nailed to them, and was slipped down between

two bonding grooves, and soft material placed outside of it. The top of this gate was elevation 166.25.

A troublesome feature in closing this opening was the gallery, 3 feet by 8 feet, with floor elevation 151.0, which gave free communication between the two relief openings. To close this, a tapering plug the shape of the opening was built up and covered with 1-inch felt along the tapered edges. Cables attached to the plug were passed through the gallery, and drawn until the plug fitted tight against the masonry. There was but little leakage, except at the bottom, where the concrete of the relief opening, being at the same elevation with the gallery floor, made it impossible to get as good a fit as at sides and top. Sand bags were used here, and the leak ultimately controlled.

Forms were placed within the bulkheads and the concrete poured, the gallery and drainage channels being carried through the block. An 18-inch steel pipe was laid to give free communication between the water within the gallery and that below the dam. This pipe raised 2 feet at the gallery end during the placing of the concrete so that it could not entirely free the gallery of water by gravity, but would prevent accumulation of pressure.

This work was completed on May 30, 1914. The quantities and costs were as follows:

897 Batches of 1:2:4 concrete placed.	
331 Batches of 1:2½:5 concrete placed.	
762 Cubic yards of 1:2:4 concrete placed.	
306 Cubic yards of 1:2½:5 concrete placed.	
Cost of building gates for cofferdam, erecting same, and cleaning up for concreting	$3,278 78
Cost of 1:2:4 concrete placed	5,355 83
Cost of 1:2½:5 concrete placed	1,789 09
Total cost to city	$10,423 70
Cost of 1:2:4 concrete placed per cubic yard	$7 03
Cost of 1:2½:5 concrete placed per cubic yard	5 85

The Engineering, Inspection, Maintenance and transportation are included under Contract No. 1.

E. L. Pattison was Resident Engineer on this work.

FINAL REPORT ON CONTRACT No. 2.

Substructure Bridge No. 1.

To connect the new road (Road No. 1, Contract No. 7), located along the hillside on the west side of the river, with Road No. 3

(Contract No. 24), it was necessary to construct a bridge about 600 feet long, situated at a high point a short distance south of the mouth of the Peterson and Dulaney Valley Runs. Owing to the height of the piers, two spans, with shore ends resting on low abutments, with one high central pier, were determined upon as the most economical construction.

The contract for the sub-structure of the bridge was awarded to the Singer-Pentz Company, Inc., of Baltimore, Md., October 23, 1912, and sublet to Williams & Hines, of the same city, November 11. On December 11, this firm became Williams & Straus. The contract price was $19,912.20 and the contract time 70 days, counted at $15 per day.

Field work began November 29, and the contract was completed July 3, 1913, the number of working days consumed being 126. Alterations in the superstructure, recommended by Mr. J. E. Greiner, Consulting Engineer for Bridges, necessitated increasing the width of the substructure and some minor alterations in design, requiring an extension of the contract time.

As completed, the average elevation of the foundation of the west abutment is 214.73, with bridge seat at 249.25.

At the east abutment, the average foundation elevation is 221.24, with bridge seat at 249.25. The average elevation of the pier foundation is 162.25, the bridge seat being of the same elevation as the abutments.

The stone was crushed at a quarry belonging to the city, about one-half mile above the bridge site, the dust being mixed with a material known as "Kane Sand" from a bank at Bosley, about two miles above the bridge site. This Kane sand is a disintegrated limestone of rather weak structure. Tests showed that when mixed with about 35 per cent. of stone dust, the results were satisfactory.

The sand was hauled with teams, as was the stone in the earlier part of the work, but the road becoming bad, a small mule operated tram was laid from the quarry to the bridge site, spanning the mouth of Peterson Run. The plant consisted of a one-third cubic yard Lakewood mixer, located at the west side of the pier; a tower and hoist for concreting the pier, and trams running to each abutment, carrying cable operated Koppel cars. To reach the east abutment, a light trestle of hand driven piles was erected across the river.

No difficulties were experienced in the construction, except that considerable water was encountered in the pier pit, necessitating care in placing the first few feet of the foundation on concrete.

The pier forms were held together with one-half inch gas pipe ties, each consisting of three sections, connected with sleeve couplings, about 6 inches back from the faces of the pier; the end sections were unscrewed and the holes left in the pier were filled with mortar. There were used in the substructure 7,020 batches of 1:2½:5 concrete and 248 batches of 1:2 grout, consisting of 2,708 barrels Security cement, 1,849 cubic yards stone, 936 cubic yards sand and 589 cubic yards dust.

Neat briquettes tested at 7 days 743 lbs. per square inch.

Mortar briquettes 1:3 mix with standard Ottawa and Kane sand showed on a 7-day test, respective strengths of 322 lbs. and 272 lbs. per square inch.

FINAL ESTIMATE.

Earth excavation, 991.49 cubic yards, at $2.28 per cubic yard..	$2,260 60
Rock excavation, 319.90 cubic yards, at $2.50 per cubic yard..	799 75
1:2½:5 Concrete in pier, 1,266.73 cubic yards, at $9.95 per cubic yard	12,603 96
1:2½:5 Concrete in west abutment and wings, 543.70 cubic yards, at $9.72 per cubic yard	5,284 76
1:2½:5 Concrete in east abutment and wings, 398.85 cubic yards, at $9.72 per cubic yard	3,876 82
Steel reinforcing bars in place, 25,018 lbs., at 3½ cents	875 63
Total cost	$25,701 52

Note—Included in the above is the following yardage outside of the contract. This was for the roadway, removed by Williams & Straus, on the rocky hillside just east of the east abutment, as it was feared that the substructure or superstructure might be damaged by the blasting here for the proposed new road (No. 3), contract for which had not been let.

Earth, 288 cubic yards, at $2.28	$656 64
Rock, 137 cubic yards, at $2.50	342 50
Total	$999 14

EXTRA WORK ORDER No. 1.

Changing forms for corners of piers and abutments, from bevelled to quarter round	$43 99

EXTRA WORK ORDER No. 2.

Construction of parapet walls	$400 00
Total cost, including extra work	26,145 51
Less credit due city for timber	60 65
Total cost to city, exclusive of engineering	$26,084 86
Total cost of substructure	25,085 72

Inspector's Estimate of Cost to Contractor.

Pier excavation	Labor..	$621 19	Material....	$352 65
Concrete	Labor..	2,636 93	Material....	5,623 31
West abutment excavation	Labor..	436 93	Material....	.....
Concrete	Labor..	1,858 38	Material....	2,735 32
East abutment excavation	Labor..	296 83	Material....	.....
Concrete	Labor..	1,375 02	Material....	1,806 32
General expenses		4,142 46	.....	745 28
Total labor and material				$22,630 62
Interest and depreciation on plant				300 00
Total cost to contractor				$22,930 62

Total Cost to City.

Paid on estimates and extra work	$26,084 86
Material furnished by city	91 25
Engineering	1,928 15
Inspection	768 86
Maintenance	924 21
Transportation	60 00
Total	$29,857 33

Mr. E. L. Pattison was Resident Engineer until March, 1913, when he was transferred to Contract No. 3, and succeeded by Mr. John K. Flick.

FINAL REPORT ON CONTRACT No. 3.

Steel Conduit, Loch Raven, Md.

To conduct the water from the Gate House at the new dam to the old tunnel between Loch Raven and Lake Montebello, a 10-foot steel conduit was constructed.

This conduit extends from the south face of the new dam to the north side of the old tunnel, and is 2,554.96 feet long, including the Venturi Meter, its axis intersecting the axis of the old tunnel 54.62 feet west of the west face of the chamber of the old Gate House.

It was decided to build this of steel, cased in concrete and lined with a mortar lining. The elevation of invert at the new dam is 173.5 A. M. T., and at the tunnel end is 173.2 A. M. T.

The sections are 7 feet 6 inches between girth joints, each composed of two 7-16-inch steel plates, shipped riveted in 15-foot sections. Girth joints, except at changes of line and grade, are single riveted, longitudinal joints double riveted.

The inside diameter of inside joints is 10 feet. The concrete casing at springing line is 18 inches and at crown 8 inches in

thickness. The mortar lining on inside joints is 1½ inches. At Towson and Shanghai Runs, over which the River Drive is carried on substantial bridges, it became necessary, in order to keep the conduit below the road level, to drop the pipe, so that the invert at these sections is 170.3 A. M. T.

At these points the conduit was carried over the streams in reinforced concrete trough structures, the parapet walls of the bridge being carried on the upstream girder, giving the appearance of a wide stone and concrete bridge.

At each of these drop sections 4-inch blowoffs were provided in the invert, while 2-inch grout holes were placed at intervals of 15 feet in the top of the pipe, ultimately to be closed with threaded iron plugs. Four manholes were provided at approximately regular intervals in the top of the pipe, openings covered with concrete slabs being left in the casing at these points.

Two hundred and ten feet from the new Gate House a Venturi Meter was provided 91.08 feet long with throat diameter of 45 inches. (See Contract No. 5.)

The contract for the conduit was awarded to Mason-Hilton & Company of New York City, on December 11, 1912, to be completed by November 30, 1913, with a liquidated damage clause of $25 per day overtime.

An extension of time of eleven days was allowed on account of a broken throat casting, and the contract was completed December 11, 1913.

Description of work:

The site on which the conduit was to be laid consisted of a berme or terrace between the foot of steep hills and the lake, with an average width of 30 feet and occupied by a roadway 10 feet wide. It was necessary to keep this roadway open to travel, as no other communication could be had with the up-river section of the city's property, except by steep and roundabout roads through the hills.

The bottom of the trench was placed at about the elevation of the ordinary water surface in the Loch, and was kept over against the hill as far as possible, without materially increasing the excavation. At the drop sections, the work was kept dry by lowering the water in the lake.

The excavation was principally in easy material, except above Towson Run, where it was through gabbro and mica schist.

The contractors laid a standard gauge track along the roadway, after the excavation had proceeded as far as possible with drag

scrapers, and installed a Bay City locomotive crane, 10-ton capacity, which handled the excavation and pipe laying throughout. Most of the material was wasted over the bank of the Loch, widening the road and taking up irregularities in the bank, incidentally giving more room for operation. The topsoil was placed at available points adjacent to the work, also the backfilling material, much of the latter being placed between the trench and the river, the roadway, and later, the tracks, being carried over the top of this.

Ground was broken on January 30, 1913, and the excavation progressed satisfactorily, the only mishap of importance to the work being the upsetting of the crane down the river bank on April 15; no one was injured and the damage was not very great. By April 18 the crane was repaired and resumed operations.

The excavation was completed on August 15. On March 13 the Shanghai Bridge (or trough) was completed sufficiently for pipe laying, as was that at Towson Run on April 11. The bottom forms were supported on hand driven piles, which, though placed closely, settled a little when the concrete was placed, causing a sag in the bottom of the slab. This was quite noticeable at Towson Run, where high water intervened after the bottom forming was set and before concreting was done.

The settlement took place as soon as the weight of the fresh concrete was placed upon the piles and before it had set, so that no cracks were visible during the several careful inspections which were made, nor is there any reason, a year and a half later, to suppose that the concrete was in any way injured. The somewhat marred appearance was restored by chipping the panel lines so that they would again be truly straight. The forms should have been carried across these streams on stiff trusses, resting upon the wing walls of the old bridges and upon which the bridges or troughs for the pipe were supported.

The blowoffs were constructed at these points approximately according to plans, but later it was found necessary to do some additional work here, and the risers at the stream end of the blowoffs were in each case omitted, the one at Towson Run now discharging at elevation 167.12, and at elevation 169.2 at Shanghai.

These were placed here not only to drain the drops, but to wash out any silt which might obstruct the flow of the stream. In the latter case, the lake between the two dams would have to be drawn as low as possible to obtain the best results, and this can be done when the drops are to be drained, thus avoiding the necessity of

doing any pumping whatever in unwatering the conduit, it being accomplished entirely by gravity flow.

Cradles were laid to receive the pipe 7.5 feet center to center on tangents and 6.98 feet center to center on curves. The experience of engineers in this work elsewhere was looked up, and as there seemed to be indications that small, rather than large cradles had proven more satisfactory, the size decided upon was 2 feet along and 3 feet normal to the pipe axis, the radius of curvature of the upper surface being one foot greater than the pipe radius. The face was grooved and grout was poured into these grooves through pipes simultaneously with the placing of the casing.

Our experience was not entirely satisfactory. The cradles did very well until the pipe was being filled with water for the test, when the great flattening occurring before pressure was put on the pipe caused it in some places to ride on the outer edges of the cradles. These cradles were carefully watched and those showing signs of failure were relieved by blocking and wedging. There were also indications of pipe strain and buckling up of the invert at several places, which, however, seemed to cause no serious injury to the plates. Theoretically the pipe should be supported in such a manner as to be entirely free to assume its ultimate shape under its working pressure before it is concreted in, or restrained in any way. For reasons which will be given under the description of pipe laying and testing, it is the writer's opinion that, in this instance and for pipe of similar size and thickness and working under similar pressures, satisfactory results would have been obtained had the pipe been brought to line and grade on wooden blocking so placed as to permit the cradles to be run immediately after riveting, and before any water was placed in the line. The cradles have been carried to the springing line, and have been made as long as possible, leaving, of course, room to caulk leaky joints and remove blocking. The work of placing cradles began April 22, and was completed August 16.

The Ritter, Conley Manufacturing Company of Pittsburgh, Pa., were the contractors on steel pipe, which amounted in all to about 796.16 tons, which they furnished and laid. The first delivery was made May 23, and the last on July 26.

Four sectional steel dished heads and angle irons riveted to the interior of the pipe were provided so that the pipe line could be tested in three sections. When the pipe lay on the cradles, riveted and ready for test, but before any water was placed therein, a series of measurements showed that the vertical diameter was

shortened by 3 3-16 inches. As this pipe was filled, this deformation increased, reaching its maximum of 1 foot 8 11-16 inches when the pipe was about full. When the pressure from an open reservoir with water surface 240 A. M. T. was placed upon the line (equal to 28.2 lbs. per square inch), the deformation decreased to 5 7-8 inches in twelve hours, and was the same at the end of 7 days. The deflections are those observed in the first section tested.

A table of the vertical and horizontal deflections in the four sections upon which tests were eventually made is interesting.

The table shows deflection (decrease) from theoretical vertical diameter of 10-foot steel conduit at Loch Raven.

	Pipe Empty.	Pipe Full.	Under Pressure.	Under Pressure.
1st section.	3 3-16 in.	1 ft. 8-16 in.	5 7-8 in. (12 hrs.)	5 7-8 in. (7 days)
2nd section.	1 3-4 in.	1 ft. 9 in.	7 5-8 in. (3 hrs.)	3 5-8 in. (7 days)
3rd section.	3 1-2 in.	1 ft. 7 7-8 in.	6 in. (3 hrs.)	5 1-2 in. (7 days)
4th section.	2 1-2 in.	11 1-8 in.	7 3-8 in. (1 hr.)	7 3-8 in. (46 hrs.)

Table showing deflection (increase) from theoretical horizontal diameter of 10-foot steel conduit at Loch Raven.

	Pipe Empty.	Pipe Full.	Under Pressure.	Under Pressure.
1st section.....	5⅛ in.	1 ft. 1¼ in.	2¼ in. (14 hrs.)	2¼ in. (7 days)
2nd section.....	2½ in.	8¾ in.	7½ in. (3 hrs.)	2¼ in. (7 days)
3rd section.....	1⅞ in.	1 ft. 3 in.	5⅝ in. (3 hrs.)	4⅝ in. (7 days)
4th section.....	3¾ in.	11½ in.	5½ in. (1 hr.)	5½ in. (46 hrs.)

It was the original intention to test this conduit in three sections, but when the third section was being filled, there being at the time 8 feet of water in the pipe, the cast-iron throat casting of the Venturi Meter tube broke, and this necessitated an extra bulkhead.

Little leaking was noticeable and this was stopped by caulking joints and rivets at which moisture appeared.

Before the pressure was released, the concrete casing was placed and given 48 hours or more to set, after which the conduit was drained and lining begun.

Conduit Lining.

The contractors elected to use the "Cement Gun" on the lining, and were directed by the Water Board to use reinforcement, as provided for in the specifications, the mortar to be 1:2 mix, 1½-inch thick over inside courses, and 1 15-16 inches over outside courses. The reinforcement was No. 7 wire mesh, American Wire Company. The New York Cement Gun Company was given this sub-contract at 14.4 cents per square foot, including the reinforcement.

The installation consisted of a steam driven compressor of 500 cubic feet capacity and two gasoline driven compressors of 250 cubic feet capacity each. A 2-inch air line carried the pressure to two F. D. Cement Guns of 2 cubic feet capacity.

The cement gun delivers cement and sand, previously mixed and placed in the receiving chamber, through a hose to a ½-inch to ¾-inch nozzle, where water is sprayed on; the mortar being then discharged at a nozzle pressure of from 35 to 45 lbs. per square inch against the surface to be covered. The sand and cement are first passed through an ⅛-inch screen. The weight of a cubic foot of 1:2 "gunite" as the product is called, shot into a form, is 124.2 lbs., as against a weight of 122.6 lbs. for one cubic foot of 1:2 mortar poured.

The wire mesh, 5 feet wide, was cut in sections of sufficient length to take in the pipe circumference with a sufficient bonding lap, which was made at the springing line on alternate sides of the pipe. The wire was held in place by flexible wooden strips, about 10 feet long, set transverse to pipe axis, sprung and held in place by gaspipe telescoping rods held by set screws.

In shooting the invert, rings of mortar about 1 foot wide were shot on a few feet apart and screeded to the proper thickness, the intermediate space being shot and screeded from the rings as soon as the latter hardened sufficiently. No difficulty was experienced in shooting the full thickness on the invert. The lining was carried about 1 foot above the springing line.

On the arch, similar rings were shot and screeded, and the intermediate spaces covered with about ¾ inch of "gunite." From 12 to 24 hours later the remainder was shot on and screeded from the rings.

Before the method above detailed was used, it was found that in screeding a broad area, the screeds had a tendency to tear the surface, producing cracks. Where there was much excess material, it was removed with a trowel. About 15 per cent. of the surface had to be reshot to bring it to the proper gauge, about 85 per cent. being right, or somewhat too thick.

In shooting against the steel a very large percentage of the sand rebounded, until the remaining mortar formed a cushion an eighth of an inch or more in thickness, after which all of the mortar adhered. This rebound was removed and a portion of it screened and used again.

In shooting the invert, great care had to be exercised to prevent the collecting of this rebound. It was picked up with trowels and

thrown just ahead of the nozzle and incorporated into the lining, but the results were not satisfactory.

It was found that on shooting the rings, the full thickness of 1 15-16 inches could be shot at one time, but if a broad area of arch were shot to this thickness, it was likely to fall, particularly if screeded or troweled much. Troweling flushed the water to the surface, causing the lining to become soft and pasty; it ceased to "gunite" and became troweled mortar. Adhesion and compactness are probably best attained by not touching the lining after shooting.

A surface left without dressing is full of minor irregularities, like a nutmeg grater, and covered with a film or glaze and should form an admirable protection if left in this condition. In shooting adjacent to a finished section, there was a considerable amount of spatter, which adhered firmly to the finished surface, forming a crust. It was very difficult to get it off without hammering, and this was considered undesirable. Adjacent sections of concrete should be hard set before any spatter is permitted to come on them, and this should be scraped off while green. It is questionable whether, when a surface to be covered later is spattered, it is necessary to clean it. It adheres firmly to the steel, being rich in cement, and forms a good base for the lining. Whether greater adhesion would be obtained by shooting over this, the writer cannot state. One advantage which the Cement Gun people claim, is lost, however, and that is the cleaning of the surface by the sand blast action of sand contained in the mortar. Too much value should not, however, be attached to the efficiency of this cleaning, as it is probably not very high.

Arundel sand was used. A somewhat softer and finer sand would probably give less rebound and equally good results, as great strength of individual grains is not required here.

The work in October cost the contractor 15.89 cents per square foot, a loss of 1.49 cents per square foot. In November the cost was somewhat reduced.

The total number of square feet on the contract was 76,000. From October 27 to November 1, inclusive, 9,103 square feet were completed, or about 1,517 square feet per day.

The following are some estimated figures:

Installation per foot	$0.02
Wire per foot	.01
Board and transportation per foot	.085
Incidentals and superintendence per foot	.175
Gas, oil and coal	.095
Cement per bag	.40
Sand per cubic foot	.06

The nozzle wears away rapidly, causing decreased efficiency. A black rubber lining has been successfully used, which wears from two days to one week in active service.

Owing to dust and smoke, the conditions within the conduit were unfavorable to good work and inspection. As a result, at a number of places on the invert, the coating showed imperfections, such as insufficient thickness, pockets of rebound and wire near the surface. Most of these were discovered by sounding with a hammer. These discoveries led to several most thorough and careful examinations, and wherever any weakness was discovered, the lining was cut out and patched by hand. These imperfections were confined to a few feet breadth of the invert, the remainder of the work appearing entirely satisfactory.

Conclusions—In the writer's opinion, the cement gun can be used to great advantage in the protection of metal, but does not lend itself well to such work as is described above. If the invert had been troweled over a width of about 4 to 6 feet and allowed to become thoroughly hard, and if all of the rebound had been removed, and all spatter taken off while green, it is probable that no superior method of covering steel with mortar is available. There would always, however, be some trouble owing to the constricted space and darkness, which would render the cement gun here less efficient than on the outside.

Breaking of the Throat Casting.

Owing to the development of certain stresses in the line, the throat of the Venturi Meter was broken.

At the time, the first section, commencing at the tunnel and about 800 feet long, had been completed. The second section was practically completed, and the third section, embracing the Venturi Meter, was being filled with water and was about two-thirds full.

The casting broke short off, the southern portion springing about 1½ inches west and retreating appreciably from the northern portion.

Various theories were advanced to account for this accident.

It was probably due to several different forces. The time was about 3.30 P. M. on September 10, and the pipe after having been in the sun all day, was then in the shadow. Thus, contraction might have been a minor factor.

At the north end of the meter cone was a pressure chamber ring, 10 feet in inside diameter and of great stiffness and rigidity. This did not take deflection with the rest of the pipe, but remained practically at its original diameter, while north of it the crown

settled a foot or more which must have exerted a pull on the upper part of the pipe. The throat casting was rigidly supported on a concrete pedestal, which remained intact, while several adjacent pedestals under the pipe were observed to be broken and cracked, and it is thus possible that a bending moment was introduced. There may also have been other forces at work which were not recognized.

Bulkheads were placed within the venturi tube and the pipe tested in two sections, being jacked back and concreted so that the broken portions of the casting were in true alignment. All of the ragged edge of the break was cut away, leaving an opening of several inches around which a block of concrete was cast in such a manner as to preserve accurately the bore of the throat.

The three 4-inch pipes from the large pressure chamber were carried to the surface above the pressure chamber, instead of opening within the meter house vault, as originally provided, and a vault was provided to house the valves.

Connection was made with the conduit opening through the dam with reinforced concrete, a slip joint with a steel tongue to cover the crack left by the contraction being provided, as shown on accompanying plan.

At three points, viz.: at the south end of the conduit where the bend forming the tunnel connection joints, at a point just south of Towson Run, and just south of the Venturi Meter, ¾-inch type C. A. P. automatic air relief valves were placed in small concrete housings for the escape of trapped air.

FINAL ESTIMATE.

Earth excavation, 5,455 cubic yards, at 85 cents	$4,636 75
Rock excavation, 8,670 cubic yards, at $2.40	20,808 00
Backfill, 4,869 cubic yards, at 50 cents	2,434 50
Top soil removed and replaced, 1,285 cubic yards, at $1.05	1,349 25
Steel pipe in place, 2,464.35 lin. ft., at $25	61,608 75
1 :3 :6 Concrete in casing, 5,437.19 cubic yards, at $7.10	38,604 05
Reinforced concrete bridge, Shanghai Creek	3,000 00
Reinforced concrete bridge, Towson Run	4,800 00
1 :2½ :5 Concrete in casing adjacent to bridges and in Meter Vault, 149.71 cubic yards, at $8	1,197 68
Steel reinforcing bars, 11,565 lbs., at 4 cents	462 60
Cement mortar lining, reinforced, 75,160.5 square feet, at 23 cents	17,286 92
Placing Venturi Meter Tube	700 00
Reinforced mortar lining in meter tube, 1,634 square feet, at 40 cents	653 60
6-inch T. C. pipe in place, 46 lin. ft., at 30 cents	13 80
Total value of contract	$157,555 90

INSPECTORS' ESTIMATE OF COST.

Earth excavation	$3,140 67
Rock excavation	13,837 73
Backfill	3,417 37
Top soil removed and replaced	1,101 48
Steel pipe in place	55,439 01
1:3:6 Concrete	20,838 03
Reinforced concrete bridge (Shanghai Creek)	2,022 54
Reinforced concrete bridge (Towson Run)	3,045 14
1:2½:5 Concrete in casing adjacent to bridges and in meter vault	71 31
Cement mortar lining, reinforced	11,071 01
Reinforced mortar lining in meter tube	411 77
6-inch T. C. pipe	47 75
General expenses	10,037 39
Cost of building camp	499 45
Total labor and material	$124,980 65
Interest and depreciation on plant	3,000 00
Total cost to contractor	$127,980 65
Cost of repairs to conduit lining made in April, 1915	419 57
Grand total cost to contractor	$128,400 22
Total amount received by contractor	157,555 90
Net profit to contractor	$29,155 68

The contractor had the following plant and equipment:

1 No. 21 Ranson side-loading concrete mixer, ½ cubic yard capacity.
1 No. 789 Bay City locomotive crane.
2 20-horsepower Lidgerwood hoisting engines, 1 double drum and 1 single drum.
1 Nagle vertical boiler, 50-horsepower.
1 Orr locomotive boiler, 40-horsepower.
1 Westinghouse compressor, 150 cubic feet capacity.
4 Sullivan rock drills, 2¾-inch cylinders.
2 McKiernan-Terry Busy Bee air drills.
5 Dump wagons of 1½ cubic yards capacity each.
9 Contractor's side dump buckets, 30 cubic feet each.
1 No. 2 Emerson pump.
1 Fairbanks piston pump, capacity 221 gallons.
1 Worthington duplex pump, 4-inch by 4-inch by 6-inch.
1 Barr duplex pump.
9 Koppel cars of 1 cubic yard capacity.
800 feet of Koppel portable track.
2,600 feet of track—60-pound rails.
1,300 Ties.

The Riter Conley Manufacturing Company had a Fairhurst 2 stage air compressor.

The total cost to the city was as follows:

Final estimate on Contract No. 3	$157,555 90
Extra work	2,150 59
Material furnished by city	1,044 51
Engineering	4,266 94
Inspection	2,593 00
Maintenance	625 05
Transportation	176 00
Total cost to the city	$168,411 99

GENERAL DATA.

Extra Work Orders.

Extra Work Order No. 1.

Furnish and drive piles for support of cradles and wing walls at Shanghai Creek and Towson Run Bridges. Cost of this work $240 60

Extra Work Order No. 2.

Construct blow-offs at Shanghai Creek and Towson Run. Cost of this work 147 28

Extra Work Order No. 3.

Raise sanitary sewer at point of crossing of conduit line near Shangai Creek. Cost of this work 8 88

Extra Work Order No. 4.

Construct 18-inch storm water drain and inlet. Cost of this work 284 92

Extra Work Order No. 5.

Place reinforced concrete jacket around throat casting of Venturi Meter. Cost of this work 71 79

Extra Work Orders Nos. 6 and 7.

Construct bulkheads in meter tube throat casting, made necessary by break in casting; construct tank and connections and do such additional pumping as may be required to test pipe on each side of casting over that required, had casting remained intact; cut out cradles; line up downstream cone of meter with throat casting, and place 1:2:4 concrete adjacent to throat casting of meter tube. Cost of this work 797 18

Extra Work Order No. 8.

Construct reinforced concrete connection—steel pipe conduit to dam. Cost of this work 639 36

City credits 39 42

The contractor used Dragon cement and Arundel sand and gravel.

Cost of cement (at the mixer) Per barrel, $1.25
Cost of sand (at the mixer) Per cubic yard, $1.30
Cost of gravel (at the mixer) Per cubic yard, $1.50

Average initial set	3 hours 20 minutes
Average final set	5 hours 6 minutes
Average tensile strength (24 hours neat)	598 lbs.
Average tensile strength (7 days neat)	688 lbs.
Average tensile strength (7 days mortar)	330 lbs.
Number of bags cement used in casing	15,805.0
Number of batches 1:3:6 concrete in casing	7,902.5
Number of cubic yards of sand in casing	1,877.5
Number of cubic yards of gravel in casing	3,655.0
Number of pounds steel reinforcement in casing	11,518.0
Number of bags of cement used in reinforced cement mortar lining	7,278
Number of cubic yards of sand	707
Number of bags cement used in Shanghai Bridge	1,243
Number of cubic yards of sand	108.5
Number of cubic yards of gravel	213.0
Number of bags cement used in Towson Run Bridge	1,761
Number of cubic yards of sand	191.2
Number of cubic yards of gravel	382.4
Number of bags of cement used in dam connection	325.0
Number of cubic yards of sand	24.1
Number of cubic yards of gravel	48.1
Number of batches of 1:2:4 concrete	162.5
Number of cubic yards of 1:2:4 concrete	66.0
Number of pounds steel reinforcement	1,971.0

Mr. J. T. Todd was Resident Engineer for several months. He was succeeded by Mr. E. L. Pattison and Mr. A. E. B. Jones succeeded Mr. Pattison.

ANNUAL REPORT FOR 1914 ON CONTRACT No. 5.

Venturi Meter.

At Station 23, 14.92 of the 10-foot steel conduit (Contract No. 3), a Venturi Meter was placed, the total length being 91 feet 1 inch and the diameter of the throat being 45 inches.

The contract was awarded on December 18, 1912, to the Builders Iron Foundry Company, the contract price being $5,420.

The recording instruments have not yet been set, the Builders Iron Foundry Company preferring to set these after the pipe is placed under pressure.

FINAL REPORT ON CONTRACT No. 6.

Superstructure, Bridge No. 1.

On April 2, 1913, the contract for the superstructure of Bridge No. 1 was awarded to the Roanoke Bridge Company, Roanoke, Va., the number of working days being 150, the count of time beginning May 1, 1913.

This structure consists of two 297-foot spans, center to center of pins, of the full riveted Parker-Truss type (Pratt with curved upper chord), distance between centers of trusses being 23 feet 6 inches, with a roadway width of 20 feet. The depth from center line of pins to top of top chord is 38 feet 6 5-16 inches.

Each truss weighed 237 tons, 600 lbs.

The first steel arrived on the ground September 19, 1913, delivery being completed December 15, 1913.

Erection of west span began March 12, 1914, and was completed March 27, 1914. The erection of the east span began March 31, 1914, and was completed April 16, 1914. Painting was begun March 4, 1914, and was completed August 12, 1914. The bridge was completed August 14, 1914. There were driven 18,225 rivets of which 684 were cut out and redriven. There are in the structure 18,225 rivets and 1,328 bolts connecting steel, and 2,037 in the floor strips.

The flooring consists of 3-inch by 6-inch creosoted Georgia Pine nailing strips bolted to the floor beams, upon which was placed diagonally 3-inch by 10-inch Georgia Pine creosoted sub-flooring, and a wearing floor of 8-inch white oak flooring spaced ¼-inch apart.

One coat of red lead was given in the shop, and two of graphite green in the field.

The triangulated distance face to face of backwall was 600 feet 8 inches. The final measured distance was 600 feet 7¼ inches. The final estimate was $50,915, inclusive of defaulted time, the inspectors' estimate of cost being $62,095.89.

The contractors, fearing damage to false work by possible high water in the Gunpowder River, decided to suspend two catenary trusses on cables, anchored in the rock back of each abutment, and erect upon these.

It was estimated that the weight of the false work in both spans would be 117 tons and that of the traveler 30 tons. Added to the weight of the two spans, 474 tons, 1,200 lbs., the total weight to be carried by the cables was estimated at 621 tons, 1,200 lbs.

Twelve 1⅝-inch plowsteel cables, manufactured by the American Steel and Wire Company, ultimate strength 94 tons, consisting of six strands of nine wires each, 800 feet long, averaging 746 feet between eye bars and weighing 1 ton and 90 lbs. in the spans of 600 feet, were used. Each end passed around a 3½-inch pin held by a pair of eye bars, each loop held by three Crosby clamps. The eye bars averaged 9 feet 9 inches in length, the shortest being 7 feet 6 inches long, and were 1-inch by 3½ inches under eye, which was 3 17-36 inches inside and 10½ inches outside diameter.

These bars were set in holes drilled in rock at the bottom of anchorage pits; that on the east side being 8 feet deep, and on the west side 22 feet deep, owing to the fact that the rock encountered was of poor quality. From east saddle to the east anchorage, the distance averaged 51 feet; from west saddle to west anchorage, 95 feet. The bars were grouted into the holes, and a slab of concrete, 18 inches thick, and strengthened with old rail, was laid over the pit bottom, after which it was backfilled.

The cables passed through holes drilled in the back walls and over grooved cast-iron saddles, 24 of which were used, resting on bridge seats and pier heads; the outer saddles carrying three cables each; the inner saddles each supporting one. The large saddles weighed 0.8-ton; the smaller, 0.5-ton.

On November 13, the contractor began setting the bars, completing the work November 24. The first cable was strung November 18, and the last November 22, and the false work was completed February 15, 1914. The construction of the traveler extended from January 9 to February 21, the first steel being raised to false work February 27, 1914. Under the weight of the false work, the cables showed 2¼-inch slip at the west abutment and 1¾-inch slip at the east abutment. Under the full steel weight this increased to 3¾-inch slip at west abutment and 3½ inches at the east abutment. No movement was noticeable at the pier.

The sag of the cables at the center under the false work was about 1 foot on each span, increasing to 3 feet, more or less, under the whole load. The deflection of the west span, upon striking the false work, was 1½ inches, and of the east span 1¼ inches. the middle ordinate of the catenary before loading was 20 feet.

In the construction, the cables having been strung and adjusted to equal sag, 2-inch by 12-inch planks were placed transversely about 2½ feet on centers and loosely attached to the cables by driving wire spikes through the planks and bending them around the cables. Three lines of stringers, or lower chords, were then laid down and panel points laid off 13.5 feet center to center, posts erected and capped, and cross and away bracing set; upper chords were put in place, an open floor spiked on and the track laid.

The traveler was then erected and both spans loaded with a greater part of the steel.

The deck was found to be considerably lower than was contemplated, after the steel was laid, and high blocking had to be used. Some difficulty was experienced in wedging up the panel points, due to the flexibility of the support. To prevent lateral motion,

cables were passed from the outer chords of the supporting truss to anchorages on the ground above and below the bridge. The only dangerous situation which arose was in the east span, when, owing to a high wind blowing upstream, the false work truss sagged upstream about 3 feet out of line. Additional lines were passed from the south side and strained until the truss was readjusted. A few days later, a heavy wind blew downstream, and this, with the strain of the cables, caused a movement of the deck downstream of nearly 3 feet, which was corrected as before. Additional cross bracing was set and no further trouble was experienced, except that one of the posts in the upstream chord of the same span cracked and had to be reinforced.

This experience demonstrated that it is entirely feasible to erect two 300-foot spans by this method. It also demonstrated that the expense is so great as to render it impracticable in such a situation. It is simply a matter of cost, and in some situations can no doubt be used to great advantage. I believe the Roanoke Bridge Company to be the pioneer in this method of erection, and have no doubt that, with the experience resulting from this work, it could be repeated at considerably less cost. The lumber in the timber trusses consisted largely of green timber sawed from the adjacent woods, and the framing was rather crudely done; and most of the connections spiked. With neater framing of bents and struts and diagonal tie rods to stiffen the bents, and connect adjacent bents, greater lateral and longitudinal stiffness would be obtained and the only dangers which threatened would be largely or wholly eliminated.

A truss erected in this manner should be full riveted before the blocking is removed.

Inspectors' estimate of cost to contractor	$62,095 89
Total amount paid to contractor	49,280 00
Net loss to contractor	$12,815 89

The contractor had the following plant and equipment:

1 Ingersoll steam drill.
1 15-ton steel traveler.
1 40-horsepower upright boiler.
1 30-horsepower hoisting engine.
2 Air tanks.
2 Single-acting Westinghouse air pumps.
2 Boyer air guns.
1 Ingersoll air gun.
1 Ajax engine and boiler for sawmill.
1 Sawmill

The total cost to the city of the work was as follows:

Final estimate on Contract No. 6	$49,280 00
Material furnished by city	133 30
Engineering	1,014 73
Inspection	800 00
Maintenance	1,152 32
Transportation	100 00
	$52,480 35

Mr. Guy Bonney was Resident Engineer on this work

FINAL REPORT ON CONTRACT No. 7.

Road No. 1, from Bridge No. 1, (Yellott Bridge) to Towson Run Bridge and Extensions, consisting of Providence Road Connection (Road No. 2), and Macadamizing Old Loch Raven Drive between the New Dam and Cromwells Bridge Road.

On April 23, 1913, bids were opened for the construction of a macadam road, 1.9 miles in length, with widths of road bed, in cuts, fills and composite sections of 20 feet, 24 feet and 22 feet respectively; the macadam depths to be from 6 inches to 8 inches, the macadam width to be 10 feet and the subgrade structures to consist of reinforced concrete box culverts. The uphill side of the road drained by a gutter or swale, discharging into 12-inch by 12-inch concrete box road drains at intervals of 300 to 400 feet, the openings into these boxes being covered with stout cast-iron gratings.

The contract was awarded to Thomas Mullan, of Baltimore, Md., who began work on June 13, 1913, with a 40-ton Marion shovel at Station 52 + 67, working toward Bridge No. 1. Between this point and the rock cut at the dam, the subgrade was made with scrapers. From the dam to Towson Run Bridge, the shovel made the excavation on its return trip. The shovel completed this work and was taken out on May 1, 1914. All of the road area was heavily timbered and much of it was steep side-hill work, with heavy cutting. Over a considerable portion of this the road bed was benched entirely into the hillside to prevent the instability which it was feared might ultimately result when the lake level is raised to elevation 237.5.

The various box culverts and road drains were well constructed and give entirely satisfactory results.

The following were the maximum heights of cuts and fills:

Average center line cut on Road No. 1	3.9 feet.
Average fill	4.5 feet.
The deepest cut on center line	22.0 feet.
The deepest fill on center line	49.0 feet.
The max. side hill cut	42.0 feet.
The max. cut side hill fill	61.0 feet.

A reinforced concrete box 6 feet square, had been designed for Rush Brook, but later abandoned for a 72-inch reinforced concrete pipe. The contractor asked permission to use two 48-inch reinforced concrete pipes instead of the 6-foot pipe. This was granted. A portion of this pipe was improperly supported on its foundation and was severely cracked at invert and arch by the weight of the high fill partially constructed over it; the remainder was laid on a concrete cradle reaching to the springing line, and the cracked portion was grouted through holes drilled in invert. This work seems to be successful.

Macadam was started on June 10, 1914, and completed on October 1, 1914. The stone, a good quality of fairly hard limestone, came from the city's quarry at Loch Raven, the contractor having sublet the crushing to Gatch Brothers. The work was well done, under careful supervision, and immediately upon the completion, was subjected to very heavy traffic, due to the delivery of 2,760 tons of stone to the Baltimore County Commissioners between the city line and the settlement of Providence, and 926 tons of stone delivered on Road No. 3. Four-horse teams and one 7-ton and one 5-ton motor truck were used. The road showed the effect of this heavy work, but stood up remarkably well. The delivery being completed, the stone contractor did a reasonable amount of repair work on the road.

This road was built during extremely dry weather and it was difficult to get sufficient water upon it to keep it moist. About 20 per cent. of the stone dust was permitted to remain in the screenings, and the nature of the material and hard traffic conditions caused much more to be formed. This caused the road to be muddy in the winter, but I regard this as an advantage, as the stone dust, wet and worked in under traffic, should form a good binder and give us a good foundation for the oiled wearing surface which will be placed upon the roads as soon as the contractors period of maintenance has expired.

The proposed road between Bridge No. 1 and the Pott Spring Toll Gate having been abandoned, the city agreed with the County

Commissioners to construct a road from Station 81 + 00 of Road No. 1, to the city line, meeting a local road at that point, which was to be improved by the County Commissioners to Providence, giving a good outlet to Towson; the city also agreed to furnish the County with road metal from city line to a point near Providence, a distance of 4,723 feet (see agreement with County Commissioners dated May 22, 1913).

Under agreement entered into between the Water Engineer, Mr. Ezra B. Whitman, and the contractor (see letter of Water Engineer to Mullan dated November 12, 1913), Mullan agreed to do this work at his prices for Contract No. 7, for stripping and concrete road drains, and for the other items a new price was agreed upon.

It was believed that the construction of the road through Providence, giving a more direct route from the Dulaney Valley to Towson, and the abandonment of the proposed road from Bridge No. 1 to the toll gate, would largely increase the traffic over that portion of Road No. 1, lying between Bridge No. 1 and Station 81 + 00, and it was therefore considered wise to widen this portion of Road No. 1 to a 14-foot from a 10-foot width, which necessitated the widening of the cuts in several places, and additional expense for macadam.

On July 22, 1914, Mr. Ezra B. Whitman, then Consulting Engineer, at a conference held with the contractor at my office at Loch Raven (see letter of July 22, 1914), agreed to give the contractor, as an extension of his Contract No. 7, the work of macadamizing a strip 8 feet wide between Towson Run and the new Gunpowder Dam; and a strip 10 feet wide between Towson Run and Cromwells Bridge Road, at his contract price for macadam on Road No. 1, the contractor to construct the road drains not already put in by the city.

The work was completed on October 15, 1914, and the contractor moved out. His maintenance on this work will expire November 30, 1915, the road having been accepted on November 30, 1914.

INFORMATION REGARDING ROADS Nos. 1 AND 2, CONTRACT No. 7, THOS. MULLAN, CONTRACTOR.

Items.	Unit.	Final Estimate Quantities.	Contractor's Bid Per Unit.	Contractor's Cost Per Unit.	Final Estimate	Contractor's Cost
1. Clearing and grubbing	Acres	$10 30	$72 00	$156 00	$741 60	$1,606 80
2. Stripping	Sq. Yds.	9,363 90	15	12	1,404 59	1,133 03
3. Earth excavation	Cu. Yds.	16,784 50	39	30	6,545 96	4,968 21
4. Loose rock excavation	Cu. Yds.	10,587 30	58	48	6,140 63	5,081 90
5. Solid rock excavation	Cu. Yds.	23,382 30	69	62	16,133 79	14,497 03
6. Rubble masonry	Cu. Yds.	17 60	5 25	4 53	92 40	79 80
7. Concrete road drains	.....	20 18	70 00	43 89	1,412 60	885 70
8. 18-inch by 18-inch and 24-inch by 24-inch concrete culverts	Lin. Ft.	244 94	3 75	2 10	918 53	514 01
9. 48-inch concrete pipe and 36-inch by 36-inch concrete culverts	Lin. Ft.	382 80	6 50	4 49	2,488 20	1,718 45
10. 72-inch reinforced concrete pipe	Lin. Ft.	.....	11 00	.....	.....	.....
11. Concrete in end walls	Cu. Yds.	44 16	11 00	8 00	485 76	353 28
12. Macadam (8-inch depth)	Sq. Yds.	6,448 50	1 00	92	6,448 50	5,906 83
13. Macadam (6-inch depth)	Sq. Yds.	12,408 38	90	78	11,167 54	9,678 54
14. Under drain 4-inch terra cotta pipe	Lin. Ft.	.....	60	.....	.....	.....
15. Cobble paving	Sq. Yds.	176 90	1 00	22	176 90	39 30
Totals	.....	.....	.....	.....	$54,157 00	$46,462 88

PROVIDENCE ROAD BILLS NOT INCLUDED IN ABOVE FOR ROAD No. 1.

1. Clearing and grubbing	Acres	$1 34	$150 00	$156 00	$201 00	$209 04
2. Stripping	Sq. Yds.	6,529 44	15	22	979 42	790 06
3. Earth excavation	Cu. Yds.	2,024 00	55	30	1,113 20	599 10
4. Concrete road drains	.....	3 00	70 00	43 89	210 00	131 67
12. Macadam (8-inch depth)	Sq. Yds.	2,653 59	1 25	92	3,316 99	2,430 97
13. Macadam (6-inch depth)	Sq. Yds.	576 00	1 15	78	662 40	449 28
Totals for Providence Road	.....	.....	.....	.....	$6,483 01	$4,610 12

EXTRA WORK ORDERS.

	Final Estimate.	Contractor's Cost.
No. 1 Taking care waste material at watering trough	$550 00	$550 00
No. 2 Cradle and fill at Rush Brook	743 06	671 81
No. 3 Overhaul at Bridge No. 1	15 00	15 00
No. 4 Pulling crib work from temporary road	11 94	10 61
No. 5 Building rock shoulders	732 64	651 24
No. 6 Extending excavation for widening road	758 44	400 31
No. 7 Already included under Providence Road.		
No. 8 Ingot iron pipe at 40 plus 60	62 79	55 81
No. 9 Pipe drains lower road (Old Loch Raven Drive)	78 50	69 78
No. 10 Blind drain lower road	23 55	20 93
Total bills	$2,975 92	$2,445 49
Total cost entire work	$63,615 93	$53,518 49
Entire profit		10,097 44

WORK NOT CONTEMPLATED UNDER ORIGINAL CONTRACT.

	Contractor's Cost.
8-inch Macadam, 4-foot strip between Providence Road and Bridge No. 1, 881 square yards	881 11
6-inch Macadam, 4-foot strip between Providence Road and Bridge No. 1, 1,124 square yards	1,011 60
8-inch Macadam on lower road (Old Loch. Raven Drive)	800 00
6-inch Macadam on lower road (Old Loch Raven Drive) 4,803.4 square yards	4,323 06
Extra road drains	292 60
Extra Work Orders Nos. 6, 9 and 10 (as shown above)	860 49
Bill for Providence Road as shown above	6,483 01
Total cost under extension	$14,651 76
Total amount paid by city	$63,615 93
Total amount of extensions, etc	14,651 76
Total cost to city without extensions	$48,964 17

NOTE—General expense is charged under stripping. Unit price of stripping without general expense .02½ cents square yard. Plant charge is distributed to the different items.

The contractor had the following plant and equipment:

1 5-ton Iroquois steam roller.
1 10-ton Iroquois steam roller.
1 25-horsepower portable boiler
1 40-ton Marion steam shovel.
2 Small steam pumps.
1 Ingersol-Rand steam drill.
1 800-gallon tank wagon.

The total cost to the city including engineering was as follows:

Final estimate on Contract No. 7	$54,157 00
Providence Road (Road No. 2)	6,483 01
Extra work	2,975 92
Material furnished by the city	292 32
Engineering	4,787 83
Inspection	1,575 69
Maintenance	1,299 80
Transportation	162 00
	$71,733 57

GENERAL DATA.

Exclusive of Engineering.

Total cost per mile, sub-grade (Road No. 1)	$20,745 00
Total cost per mile, completed road (Road No. 1)	27,320 00
Total cost per mile, sub-grade (Road No. 2)	6,259 00
Total cost per mile, completed road (Road No. 2)	16,208 00

In Macadam.

Number of tons of No. 1 stone, 5,800 at	$0 94
Number of tons of No. 2 stone, 5,800 at	94

In Culverts.

Number of bbls. of Tidewater cement, 242 bbls., at (per bbl.)	2 26
Number of tons of Arundel sand, 117 tons, at (per ton)	1 80
Number of tons of gravel and stone, 211 tons, at (per ton)	1 85

Laborers Employed.

Maximum number of laborers employed 65, at (per 10 hr. day)	1 75
Average number of laborers employed 26, at (per 10 hr. day)	1 75

The contractor's organization consisted of one superintendent and three foremen at rates per day of $5, $4, $4 and $3.50 respectively.

Loads hauled, 5 per day per team; maximum length of haul, 1.9 miles; minimum length of haul, ⅛ mile; average length of haul, ¾ mile; average weight of stone per load, 5,500 lbs.; number of horses employed per team, 4 regular and 2 snatch.

The maximum number of square yards of 8-inch macadam laid in a 10-hour day was 288 and of 6-inch macadam was 358.

Length of macadam (8 feet), 900 feet, depth 8 inches.

Length of 10-foot macadam, 2,045 feet of 8-inch thickness, 5,460.87 feet of 6-inch and 1,704 feet of 4-inch.

Length of 14-foot macadam, 2,055 feet of 8-inch thickness, 23,626 feet of 6-inch.

Number and size road drains, 20 12-inch by 12-inch.

Number and size culverts, 4 18-inch by 18-inch, 1 36-inch by 36-inch, 1 24-inch by 24-inch, 1 double line of 48-inch pipe.

Mr. E. L. Pattison, Mr. John K. Flick and Mr. Guy Bonney were Resident Engineers successively on this work.

FINAL REPORT ON CONTRACT No. 8.

Sluice Gates for New Dam.

A contract was let on February 19, 1913, to the Coffin Valve Company for furnishing sluice gates for the new dam. There were four 42-inch by 72-inch gates placed in the influent chambers of the Gate House, two in each chamber, and a 24-inch diameter sluice gate was placed over the 24-inch cast-iron drain in each chamber. Two 48-inch diameter sluice gates were placed at the upstream ends of the two 48-inch cast-iron pipe sluices which pass through the dam immediately below the piers on the crest.

4 42-inch by 72-inch sluice gates with appurtenances, complete at $447	$1,788 00
2 48-inch diameter sluice gates with appurtenances, complete at $427	854 00
4 24-inch diameter sluice gates with appurtenances, complete at $151	604 00
Total value of contract	$3,246 00

FINAL REPORT ON CONTRACT No. 10.

Gate Valves for New Dam.

The two 48-inch cast-iron pipe sluices through the new Loch Raven Dam, in addition to the gates closing their upper ends, have, near the outlet end of each, a gate valve, which normally remains open. These valves are housed in vaults set within the retaining walls south of the dam, and have non-rising stems.

The contract was let to the Coffin Valve Company on March 5, 1913, the contract price being $1,620.

FINAL REPORT ON CONTRACT No. 15.

Superstructure, Bridge No. 2.

The contract for the superstructure of Bridge No. 2 was awarded to the McClintic-Marshall Company of Pottstown, Pa., on September 17, 1913.

This is a full riveted highway bridge of the Parker-Truss type (Pratt with upper curved chord), consisting of three 297-foot spans and a deck girder shore span at either end, 27 feet long. The distance, center to center, of trusses is 24 feet; width of roadway 20 feet, and maximum depth of truss 46 feet.

The loading was taken from "Greiners Specifications for Steel Stationary Bridges," 1911 edition. The erection was by the usual method.

The total weight of the steel is 1,789,164 lbs.

False work was begun March 1, 1914, and erection of steel on April 21. The contract price was $86,750. The flooring consisted of 4-inch white oak planks spaced ¼-inch, laid diagonally, attached to 4-inch by 6-inch yellow pine nailing strips bolted to the floor beams. Owing to the stiffness of the flooring, it was found desirable to use a number of lagscrews in addition to the spikes. These were countersunk, the depressions being filled with coal-tar pitch. There were no unusual features about the construction, which proceeded rapidly, the bridge being completed, except for the painting, August 26, 1914.

The painting consisted of one shop coat of red lead and two field coats, the first of No. 54 English red oxide and graphite and the second of No. 18 black carbon and green.

There were 2,970 bolts, 5,000 spikes, 4,000 lagscrews and two and one-half barrels of coal-tar pitch used in floor system.

The plans and specifications were prepared by Mr. J. E. Greiner, Consulting Engineer, who supervised the erection.

Mr. Guy L. Hess was Resident Engineer.

Below is inspectors' estimate of costs:

Item.	Labor Cost.	Material Cost.	Total Cost.
Falsework	$7,797 05	$749 50	$8,546 55
Steel and erection of same	6,541 48	56,187 43	62,728 91
Hauling and unloading	4,180 82	.....	4,180 82
White oak—flooring	350 00	2,542 17	2,892 17
Yellow pine nailing strips	.....	806 08	806 08
General expense	853 50	715 00	1,568 50
Totals	$19,722 85	$61,000 18	$80,723 03
Interest and depreciation on plant			2,320 76
Total cost to contractor			$83,043 79
Total amount received on estimates			86,750 00
Contractor's profit			$3,706 21

The contractors had the following plant and equipment:

1 Compressor, No. 1106, Chicago Pneumatic Tool Company.
1 Compressor pump, No. 133202, Westinghouse Air Brake Company.
1 Lambert hoisting engine, No. 5826, 60-horsepower and boiler.
1 Lambert hoisting engine, 40-horsepower and boiler.
8 Boyer riveting guns.
1 Traveler, 15 tons capacity.
1 Guy derrick, 15 tons capacity.

The total cost to the city of the above work was as follows:

Final estimate on Contract No. 15	$86,750 00
Extra Work Order No. 1, furnishing steel channels and additional creosoted lumber	295 73
Material furnished by the city	413 46
Engineering	257 40
Inspection	637 00
Maintenance	838 67
Transportation	100 00
Total	$89,292 26

NOTE—Does not include Consulting Engineer's fee.

FINAL REPORT ON CONTRACT No. 16.

Substructure, Bridge No. 2.

Owing to the flooding of the Dulaney Valley Pike, it became necessary to build a bridge across the lake above the Meredith Ford Bridge, and a site about 4,500 feet above the latter was selected. The east abutment and adjacent pier rest on a bold bluff, rising sharply from the river's edge, and were founded on rock, as were piers 2 and 3. Pier 1 and the west abutment were founded on clay and sandy material, the foundations being spread to give greater bearing area, the load of the masonry being 970 lbs. per square foot. The bridge seat at the west abutment is 29 feet above the original ground surface, and the road is carried over a 16,000-yard fill to the high ground beyond.

The contract was let on June 11, 1913, to the Stewart-Jones & Claiborne-Johnston Company, contractors, of Baltimore, Md. Later, the Stewart-Jones Company withdrew, and the Claiborne-Johnston Company completed the work. The elevations of bridge seats and pier heads were as follows: west abutment, 248.58; Pier No. 1, 245.52; Pier No. 2, 248.52; Pier No. 3, 248.52; Pier No. 4, 245.52; east abutment, 248.58.

The tallest pier was No. 3, being 80.5 feet from foundation to head.

The average foundation elevations were as follows: west abutment, 208.0; Pier No. 1, 208.0; Pier No. 2, 174.5; Pier No. 3, 168.0; Pier No. 4, 212.3; east abutment, 225.0. The distance from backwall to backwall was 951.0 feet.

Piers and abutments were of 1:2½:5 concrete, with 20,055 lbs. of steel bar reinforcement, and contained 2,659 cubic yards concrete. The work cost $31,971.01, and was begun July, 1913, being completed February, 1914.

A limestone quarry about 300 feet southerly from the east end of the bridge furnished all of the stone for this structure.

The stone was carried by a tram to a crusher at the bridge site. Sand was obtained from the river directly under the cableway, being a very fair grade; the bank from which it was removed being constantly replenished by the river. The sand and stone dust were mixed in about equal proportions.

A 1½-inch cable was strung between towers 1,400 feet apart, the west tower being 102 feet and the east tower 76 feet in height. The sag was 42 feet. Buckets of ¾-yard capacity, run by a Lambert hoisting engine, were hauled on a horse-drawn car from the mixer to a point beneath the cable, a distance of 110 feet, where they were picked up and rapidly carried to their destination. A platform for the dumpmen was erected over the pier under construction, both ways from which ran an incline of planks to deliver the concrete on alternate sides about midway between center and edge of pier, from which point it was worked into place. The men were at first timid about taking hold of the bucket, as it swung, more or less, and leaped vertically a dozen feet or more when dumped, but they soon gained confidence, became skillful, and met with no accidents. The pit of Pier No. 4 was filled with concrete for some distance above the foundation to prevent the possibility of movement in some large boulders through which the pit was driven. The work was completed without meeting with any construction difficulties, and an attractive appearance obtained.

Note—After the letting of the contract, upon the recommendation of the Consulting Engineer, Mr. J. E. Greiner, several alterations were made in the substructure, causing some delay and some additional cost.

The contractor had the following plant:

1 Climax crusher, Goods Roads Machinery Company, Kennett Square, Pa.
1 Boiler, 25-horsepower.
1 Double drum engine, 30-horsepower, Lambert Hoisting Engine Company, Newark, N. J.
1 Boiler, 35-horsepower.
1 Drill boiler, Ames Iron Works, Oswego, N. Y.
1 Steam drill, Ingersol-Rand Company, New York, N. Y.
1 Foote mixer, Foote Manufacturing Company, Nunda, N. Y.
1 Stone car, Kilburn-Jacobs Company, Columbus, Ohio.
2 Diaphram pumps.
1,500 feet of 1½-inch steel cable, Macomber & Whyte, Chicago, Ill.

FINAL ESTIMATE.

	Rate.	Amount.
Earth excavation, 845.41 cubic yards	$1 50	$1,268 11
Rock excavation, 510.35 cubic yards	3 00	1,531 05
1:2½:5 Concrete in pier, 2,659.04 cubic yards	10 50	27,919 92
Steel reinforcing bars in place, 20,055.0 lbs.	03½	701 93
Total value of contract		$31,421 01
Extra Work Order No. 1—Placing additional concrete (lean mix and plum stones) around base of Pier No. 4, as backfilling—74 cubic yards at $5		370 00
Total amount paid to contractor		$31,791 01
Increase over original plans, owing to change by Consulting Engineer		6,636 01

INSPECTORS' ESTIMATE OF COSTS.

	Labor.	Material.
Excavation	$1,498 39	$100 45
Concrete	3,948 78	10,238 47
General expense	6,800 31	472 10
Total labor	$12,247 48	
Total material	10,811 02	
Plant charge	1,000 00	
Total cost to contractor	$24,058 50	
Amount paid contractor by the city	31,791 01	
Net profit to contractor	$7,732 51	

TOTAL COST TO CITY.

	Labor.
Final estimate	$31,421 01
Extra Work Order No. 1	370 00
Engineering	2,613 94
Inspection	760 54
Maintenance	720 91
Transportation	75 00
Total	$35,961 40

GENERAL DATA.

Brand of cement.....Dexter

On Pier No. 4, 1,200 bags of Whitehall and 580 bags of Tidewater cement were used to complete the work. This was taken from storage at Montebello, under Tag Nos. 3910 and 3911, Municipal Testing Laboratory test.

Average initial set, Dexter cement.....4 hours 25 minutes

Average final set, Dexter cement.....6 hours
Average tensile strength, 7 days, neat.....677 hours.
Average tensile strength, 7D. standard sand (1:3).....183 hours.
Average tensile strength, 7D. river sand (1:3).....184 hours.
Average tensile strength, 7D. stone dust and river sand (1:1½ each) 263 hours.
NOTE—Sand taken from bar in Gunpowder, between Piers Nos. 3 and 4.
Number of bags of cement used.....12,393
Number of batches of 1:2½:5 concrete.....12,098
Number of batches of 1:2 grout..... 295
Number of cubic yards of stone..... 2,136.2
Number of cubic yards of sand..... 713.8
Number of cubic yards of dust..... 326

Mr. John K. Flick was Resident Engineer until January, 1914, when he was transferred to Contract No. 17, and was succeeded by Mr. Guy L. Hess.

ANNUAL REPORT ON CONTRACT No. 17.

Lining Montebello-Clifton Tunnel and 84-inch Line to Baltimore and Ohio Railroad.

It was necessary to reinforce the 12-foot tunnel betwen Lakes Montebello and Clifton to enable it to resist the increased pressure due to the proposed head in the filtered water reservoir, 213 A. M. T., and on December 31, 1913, a contract was let to the Lock Joint Pipe Company of New York. The contract price was $225,924.97. The plans called for 4,123.51 feet of 108-inch diameter pipe between the Montebello Gate House and Shaft No. 1, which is situated at the intersection of Washington street and Harford avenue. At this point the line bifurcates through a steel breeches, one line of 84-inch diameter running to the Clifton Gate House and ending in a steel receiver in the north chamber, from which it is distributed through six 30-inch flumes to the old system.

Between Shaft No. 1 and the Baltimore and Ohio Belt Line Railroad, an 84-inch line lies in open trench, and will be connected with a main, which will be let under Contract No. 26.

Embraced in Contract No. 17 is also a line of 108-inch pipe in open trench, which connects the Filtered Water Reservoir with the tunnel near the Montebello Gate House. This portion of the system is controlled by two gate valves, one 72-inch hydraulically operated valve being placed adjacent to the Montebello Gate House, and one hand operated 48-inch valve being placed at Shaft No. 1 on the line running to the Baltimore and Ohio Railroad.

In addition, it was necessary to reline all of the flumes and wells in the Clifton Gate House, and replace the old gates with gate

valves, and to remove the lower row of brick arched stru's in the north chamber, passing the receiver through the space occupied by them; and replace with reinforced concrete beams, which also carried the receiver.

The contractor began work on March 31, 1914, with the manufacture of pipe at Clifton and Montebello.

These pipe were cast in 6-foot sections with bell and spigot joints. The walls of the 108-inch pipe are 9 inches thick, reinforced with $\frac{3}{4}$-inch square deformed circumferential bars, 3 inches center to center, placed 2 inches from the outside of the pipe, and the longitudinal reinforcement consists of twelve $\frac{1}{2}$-inch square deformed bars equally spaced.

A mesh of No. 38 A. S. & W. Co.'s steel wire reinforcement, placed 2 inches from the inside of the pipe, is used, projecting on either end so as to form a lap with the mesh in the adjacent joint. Dexter cement was used, 45 bags being required for each length of pipe, into the manufacture of which went also 2.37 cubic yards of sand and 3.96 cubic yards of stone. The sand was furnished by the Arundel Sand and Gravel Company, of Baltimore, and the stone was gotten from a quarry on the Belair road. The total weight of reinforcement in each 108-inch pipe is 2,000 lbs. and the completed pipe weighs 22,000 lbs.

The walls of the 84-inch pipe are 8 inches thick, reinforced with $\frac{5}{8}$-inch square deformed bars, 3 inches center to center, placed 2 inches from the outside of the pipe, and the longitudinal reinforcement consists of twelve $\frac{1}{2}$-inch square deformed bars equally spaced. A mesh of No. 38 A. S. & W. Co.'s steel wire reinforcement, placed 2 inches from the inside of the pipe, is used, projecting on either end so as to form a lap with the mesh in the adjacent joint. In each length of 84-inch pipe there were 32 bags of cement used, 1.69 cubic yards of sand and 2.82 cubic yards of stone. The proportions of the concrete used in the manufacture of the pipe are $1:1\frac{1}{2}:2\frac{1}{2}$. The total weight of reinforcement in each 84-inch pipe was 1,300 lbs., and the completed pipe weighs 7.5 tons.

The pipe was handled with a 15-ton locomotive crane, and was transported into position in the tunnel by a gasoline operated tractor, which was of such ingenious construction that little trouble was experienced in transporting and setting the pipe.

The first 108-inch pipe was placed in the tunnel on May 25, 1914, and the first 84-inch pipe was placed in the tunnel on June 18. The trench work was done by a sub-contractor, the Ault Construction Company and James G. Parlett, the excavation being started on the

Filtered Water Reservoir-Montebello trench on May 2, 1914, and on the Shaft No. 1-Baltimore and Ohio Railroad trench, March 4, 1914. Owing to the extremely low water in the Gunpowder River during most of the summer, when at times the consumption was greater than the stream flow, it was necessary to keep the tunnel in continuous operation, and the contractor was unable, on several occasions, to enter it for several weeks at a time. Owing to this cause, the work has been very much delayed, and will run well into the year of 1915. To date 4,098 feet of 108-inch pipe has been laid in the tunnel and 828 feet has been laid in open trench. Of the 84-inch pipe, 1,218 feet has been laid in the tunnel and 1,686 feet in open trench.

About 90 per cent. of the entire work has been completed.

In the 1915 report further details of this work and costs will be given.

J. K. Flick was Resident Engineer on this work.

ANNUAL REPORT FOR 1914 ON CONTRACT No. 26.

Extension of Mains.

Surveys were made and plans and specifications were prepared for the extension of the main laid under Contract No. 17, terminating at the Baltimore and Ohio Railroad.

It was necessary to drop to such an elevation as would permit the line to pass beneath the railroad, a reinforced concrete underpass being designed for its reception. From the underpass, a tunnel is to be driven diagonally beneath Harford avenue, beyond which the main will be laid in open trench in the bed of Twenty-fifth street, Taylor street, Homewood avenue, Twentieth street, and Oak street to North avenue. At Taylor street and Twenty-second street, a branch line of 48-inch cast-iron pipe is to be laid in the bed of Twenty-second street to Kennedy avenue, and thence along Kennedy avenue to North avenue.

From its junction with Contract No. 17, to Twenty-second and Taylor streets, the main will consist of 84-inch steel, 7-16-inch thickness, protected on the outside with concrete, and lined with bitumastic enamel.

From Twenty-second and Taylor streets to Oak street and North avenue, the main will be laid with 60-inch cast-iron pipe. At North avenue, at both Oak street and Kennedy avenue, the mains under Contract No. 26 will be connected with existing mains by the city force.

In the 60-inch line at Twenty-second street, a 42-inch gate valve will be placed at the south curb line, and at the east building line of Taylor street, a 36-inch gate valve will be placed in the 48-inch line.

Blowoffs will be provided at the low points to empty the pipe when necessary, and automatic air relief valves at the high points will prevent the accumulation of air and consequent reduction of area.

The contract was let to the Whiting-Turner Construction Company of Baltimore, Md., on December 16, 1914, the price bid being $180,977.85.

G. E. Sponsler will be Resident Engineer on this contract. A more detailed account of this work will be given in the 1915 report.

FINAL REPORT OF CONTRACT No. 24 (ROAD No. 3).

Bridge No. 1 (Yellot Bridge) to Dulaney Valley Pike.

On September 17, 1913, bids were received for the construction of a road, either of macadam or concrete, 1.7 miles in length, with widths of road beds in cuts, fills and composite sections of 24 feet, 28 feet and 26 feet respectively; the macadam depths to be 8 inches, the concrete depth to be 6 inches at edges and 7¼ inches at center of slab, and width of surfaced road to be 14 feet. The subgrade structures were to consist of reinforced concrete box culverts. The uphill side of the road was drained by a gutter or swale, discharging into 12-inch by 12-inch concrete box road drains at intervals of several hundred feet, the openings into these boxes being covered with stout cast-iron gratings.

The contract was awarded to Thomas Mullan, of Baltimore, Md., who began work on November 20, 1913, with wagons and scoops, the first work being started at the fill near the Dulaney Valley Run.

In January, the work of grading was stopped on account of the hard frost, which rendered the material unfit to place in the fills and increased the cost of plowing.

Other work was continued wherever practicable, and on March 24, 1913, the grading was resumed.

Except on the steep hill between the Jessop line and Bridge No. 1, where there was timber, no clearing had to be done, but because of the shallow cuts and fills, a large amount of stripping was necessary.

It was decided to build a concrete road slab; metal strips, approximating in shape the slab section, separated by a felt strip

¼-inch thickness, were placed at intervals of 25 feet to provide for expansion and contraction.

The contractor was given permission to use, for this work, limestone from a quarry on the city property near the Morgan Mill Road crossing, for the stone aggregate, and for sand the dust of this stone mixed with limestone sand (which is composed of disintegrated limestone and of weaker structure than silica sand) for the bottom 4 inches of the slab, the sand in the upper portion being replaced by Arundel sand to form a wearing surface. By careful inspection and care on the part of the contractor, it is believed that this was accomplished, although experience with the wear of this road will be necessary before the writer is able to say whether this method is to be recommended.

Care was taken to get the foundation for the slab regularly compacted and to obtain a homogeneous mix. Most of this work was done in very dry, hot weather.

Before beginning to concrete, the subgrade was well wet down, but not to such an extent as to make it muddy.

The screeding and floating completed, the surface was well scored with lines normal to the axis of the road by drawing a stiff broom from the center toward the edges, care being taken to prevent gouging, or in any way marring the contour. The corners of the slab were removed by cutting after the concrete had set up, and by bevelling with a trowel while yet green. The latter method is to be preferred. Canvas was placed over the concrete as soon as it had set hard enough to prevent its being marked, and kept wet until the surface was hard, after which several inches of earth were placed over the slab and watered from time to time for seven days.

In this work the contractor averaged 175 linear feet per ten-hour day.

At the Dulaney Valley Run a reinforced concrete girder and slab bridge of 23 feet span was constructed, 22 feet 1½ inches between wheel guards.

The contractor completed the grading on June 23, 1914, the bridge on May 29, 1914, and the concrete slab was completed on September 9, 1914.

Across the Jessop land the right-of-way was not obtained until October 30, 1914.

The contractor spent the intervening time dressing slopes, etc. As this portion of the road would be the last constructed, and as it was desirable to open the road to travel as soon as possible; and

as the concrete slab should have two weeks to season before being placed under traffic, the City Solicitor, in an interview with the Acting Water Engineer and the Division Engineer on October 4, 1914, directed that macadam should be used across the Jessop property. It was, therefore, decided to use macadam between the Jessop property and Bridge No. 1, to avoid a patchy appearance. This work was done at the contract prices, less an adjustment for stone, which was furnished by the city.

The contractor was protected on the materials which he had on the ground for the concrete slab and could not use.

Below is the final estimate and tabulation of costs to contractor:

INFORMATION REGARDING CONSTRUCTION OF ROAD No. 3, CONTRACT No. 24, THOMAS MULLAN, CONTRACTOR.

Items.	Final Estimate.	Contractor's Bid Unit.	Contractor's Cost Unit.	Final Estimate.	Actual Cost.
Clearing and grubbing.	1	$131 00	$175 30	$131 00	$175 30
Stripping	17,418 7	12	05	2,090 24	908 85
Earth excavation	16,078 54	56	355	9,003 98	5,722 51
Loose rock	643 60	62	58	399 03	373 29
Solid rock	3,704 43	1 32	865	4,889 85	3,204 33
Rubble masonry		5 25			
12″ con. road drains.	5	75 00	57 18	375 00	285 93
18″x18″ culvert	207 30	3 15	1 93	653 00	400 81
24″x24″ culvert	123 70	4 70	3 12	581 39	386 06
36″x24″ culvert	23 30	6 90	4 91	160 77	114 42
48″x36″ cultvert	26 00	13 00	4 21	338 00	109 58
48″x48″ culvert	93 36	14 00	6 19	1,307 04	578 24
1 :2½ :5 concrete	192 84	14 00	10 30	2,699 76	1,986 31
1 :2 :4 concrete	41 88	18 00	12 30	753 84	515 10
4″ underdrain	238 00	50	20	119 00	48 05
Stone paving	153 37	1 00	31	153 37	47 05
8″ W. B. macadam	1,653 41	1 10	1 05	1,818 04	1,740 36
6″ W. B. macadam		1 00			
6″ con. paving	9,894 92	1 26	1 72	12,467 60	17,010 68
Laying 8″ macadam	2,294 4	73	65	1,674 91	1,502 04
Bill for extra Work Order No. 1				130 76	119 12
Bill for extra Work Order No. 2				45 69	40 61
Bill material bought for concrete road				406 76	406 76
Totals				$40,199 03	$35,675 40
Paid on Contract No. 33, for stone				1,760 84	
Grand total cost to city				$41,979 87	

NOTE—Extra Work Order No. 1 is for redressing of slopes due to change in grade. Extra Work Order No. 2 is for special catch-basins at 43 plus 30. General expense item of above job is charged in with stripping and macadam Items.

Plant charge is distributed to the different items.

The contractor had the following plant:

1 Small steam pump.
1 Foote concrete mixer, capacity ½ cubic yard.
1 5-ton Iroquois steam roller.
1 10-ton Iroquois steam roller.
1 25-horsepower portable boiler.
1 Ingersol-Rand steam drill.
1 Stone crusher.
10 1¼-yard dump wagons.

The total cost to the city, including engineering, was as follows:

Paid on estimates	$39,615 82
Extra work	176 45
Bill for material bought for concrete road	406 76
Stone bought on Contract No. 33 for macadam	1,760 84
Material furnished by the city	131 38
Engineering	2,559 04
Inspection	1,109 25
Maintenance	1,152 33
Transportation	100 00
Total	$47,011 87

GENERAL DATA.

Exclusive of Engineering.

Total cost per mile, sub-grade	$14,020 00
Total cost per mile, completed road	24,760 00

In concrete slab and culverts, 3,603 bbls. of Tidewater and Security cement were used at $2.44 per bbl.

In Concrete Slab.

Number of tons of No. 1 stone, 1,894.3 at	$1 76
Number of tons of No. 2 stone, 1,894.3 at	1 76
Number of tons of screenings, 831.2 at	1 71
Number of tons of Arundel sand, 216.0 at	3 91

In Macadam.

Number of tons of No. 1 stone, 695.9 at	1 76
Number of tons of No. 2 stone, 695.9 at	1 76
Number of tons of screenings, 46.60 at	1 71

In Culverts.

Number of tons of screenings, 221.0 at	1 37
Number of tons of Arundel sand, 9.0 at	3 91
Number of tons of No. 1 stone, 436.0 at	1 40
Number of tons of No. 2 stone, 436.0 at	1 40

Laborers Employed.

Maximum number of laborers employed 43, at	(per day) 1 75
Average number of laborers employed 24, at	(per day) 1 75

The contractor employed one superintendent and two foremen at rates of $5, $4 and $3.50 per day respectively.

All hauling was done with under-cut dump wagons and one-horse carts.

There was 2,527 feet of macadam 8 inches in thickness and 6,739 feet of concrete slab.

Road drains, 5 12-inch by 12-inch.
Culverts, 6 18-inch by 18-inch.
Culverts, 4 24-inch by 24-inch.
Culverts, 1 24-inch by 36-inch.
Culverts, 1 36-inch by 48-inch.
Culverts, 1 48-inch by 48-inch.
Culverts, 1 42-inch by 72-inch.

Mr. John K. Flick was Resident Engineer on this work until January, 1914, when he was transferred to Contract No. 17, and succeeded by Mr. Guy Bonney.

FINAL REPORT ON CONTRACT No. 25.

Valves for Contract No. 17.

A number of valves were required in connection with the distribution mains. A contract was awarded on February 18, 1914, to the Roe Stephens Manufacturing Company of Detroit, Mich., for furnishing these valves for the sum of $5,935. They were of various sizes as follows:

1 72-inch hydraulic lift gate valve.
1 48-inch N. R. S. gate valve with 8-inch bypass.
12 30-inch N. R. S. gate valves.
2 24-inch N. R. S. gate valves.

There were also 1 60-inch N. R. S. valve furnished on this contract for use at Loch Raven on Contract No. 37.

The 72-inch valve is to be placed at Montebello in the old tunnel near the Gate House and controls the supply between the Montebello Lake and the 108-inch pipe line in the old tunnel. The 48-inch valve is to be placed just south of the breeches on the 84-inch line to the city. The 12 30-inch valves and 2 24-inch valves are to be placed in the Clifton Gate House. The contract prices for the valves were as follows:

1 72-inch gate valve, at $1,800	$1,800
1 60-inch gate valve, at $1,075	1,075
1 48-inch gate valve with 8-inch bypass, at $650	650
12 30-inch gate valves, at $180	2,160
2 24-inch gate valves, at $125	250
Total	$5,935

FINAL REPORT ON CONTRACT No. 32.

Surfacing Road No. 5.

On September 2, 1914, a contract was let to Mr. J. T. Todd for the surfacing of Road No. 5. Only one bid was received.

Mr. Todd was assisted in his work by Mr. John K. Flick, Resident Engineer on Contract No. 17, who took his vacation at this time and whom the Consulting Engineer later granted a furlough for one month. Mr. E. L. Pattison looked after the work on Contract No. 17 during Mr. Flick's absence.

The contractor began work on September 13, and completed it on October 31, but the Resident Engineer certified to 16 days credit due to delay and three days credit due to extra work, which reduced the time 19 days and gave the contractor a bonus of $95, he having bid to complete the road by November 1, 1914.

This work was done under the disadvantage of constant traffic over a large portion of the road, very dry weather, and a rather insufficient amount of water for puddling, it is believed, with the result that thorough knitting was not obtained, and consequently, raveling occurred at various points, making some additional work immediately necessary, which was done by Thomas Mullan. In writing the specifications, the year's maintenance clause had been cut out, owing to the belief that, as there was no profit to be made from anything but the surfacing, and the amount of work was small, the maintenance clause would have caused a large increase on the bid price. Whether this was wise or not, it prevented the city's calling upon the contractor for repair work, and caused the immediate outlay of $322.84, amounting to .03 cents per square yard.

Stone was hauled from a quarry belonging to the city on the old River Drive 0.76 miles below Meredith Ford Bridge.

The length of the Merriman Mill Road resurfaced was 1.01 miles and of new road 0.44 miles. Total length of road surfaced was 1.45 miles, and the total number of square yards of macadam laid was 10,258.

Mr. Guy L. Hess was Resident Engineer on this work.

FINAL ESTIMATE ON CONTRACT No. 32.

Road Surfacing.

Item.	Rate.	Amount.
8″ Macadam, 2,120.11 square yards, 14 feet wide	$1 25	$2,650 14
6″ Macadam, 1,494.90 square yards, 14 feet wide	1 16	1,734 08
8″ Macadam, 10 feet wide	1 30	.....
6″ Macadam, 3,631.55 square yards, 10 feet wide	1 20	4,357 86
4″ Macadam, 3,012.28 square yards, 10 feet wide	1 12	3,373 75
19 days' bonus, at $5 per day		95 00
Total value of contract		$12,210 83

Contractor's Costs.

1,538 Tons of No. 1 stone delivered, at $2 per ton	$3,076 00
1,206 Tons of No. 2 stone delivered, at $2 per ton	2,412 00
609 Tons of screenings, at $2 per ton	1,218 00
Total cost of stone	$6,706 00
Sprinkling 10,258 square yards, at $0.035 per square yard	359 03
Labor on road, spreading stone, fixing sub-grade, etc	450 00
To hire of steam roller and men to run it	495 00
General expense	600 00
Total cost to contractor	$8,610 03
Final estimate on Contract No. 32	12,210 83
Profit to contractor	$3,600 80

The plant employed by the contractor consisted of one watering tank, and a 10-ton Monarch steam roller. The sub-contractor, who furnished the stone, had the following plant:

1 75-ton Acme jaw crusher.
1 Bucket conveyor and screens.
1 25-horsepower Faulkner engine.
1 Murphy steam drill.

The contractor paid labor $1.75 for a 10 hour day.

The total cost to the city for grading and surfacing Road No. 5 was as follows:

TOTAL COST OF ROAD No. 5.

Cost of grading	$15,935 55
Cost of surfacing Contract No. 32	12,210 83
Cost of repairs to road	322 84
Cost of engineering	897 20
Cost of inspection	154 50
Cost of maintenance	87 77
Total cost	$29,608 69

FINAL REPORT ON CONTRACT No. 33.

Road Metal.

The city agreed (see contract between City of Baltimore and County Commissioners, dated May 22, 1913), to furnish stone to the County Commissioners for macadamizing a road to be constructed between the city line and the village of Providence. Also, to furnish the contractor on Road No. 3 with stone between Bridge No. 1 and the end of the concrete road.

A contract was let on September 24, 1914, to Fisher & Carozza, at the rate of $1.90 per ton delivered, and was sublet to Gatch

Brothers. There was 2,759 tons furnished to the County Commissioners.

Nine hundred and twenty seven tons were furnished on Road No. 3.

The heavy teaming and running of motor trucks over Road No. 1, and the Providence connection caused some injury to the macadam already laid, particularly on that portion of Road No. 1 where the width was 10 feet. The sub-contractor, after the completion of the work, did some repair work, putting the road back into satisfactory condition.

The contract was completed on December 5, 1914.

FINAL ESTIMATE ON CONTRACT No. 33.

3,685.1 Tons of stone, at $1.90 per ton	$7,003 59
11 Working days, at $7.50 per day bonus	82 50
Total amount paid contractor	$7,086 09

Cost of crushing stone and hauling same:

Quarrying and crushing	$2,114 00
Hauling	2,362 40
Interest and depreciation on plant	200 00
Total cost to contractor	$4,676 40

The total cost to the city was as follows:

Final estimate	$7,003 59
Bonus of 11 days, at $7.50 per day	82 50
Inspection	115 00
Transportation	5 00
Total	$7,206 09

The contractor had the following plant and equipment:

1 7-ton motor truck.
1 5-ton motor truck.
1 50-horsepower vertical boiler.
1 7-inch by 10-inch hoisting engine for use with derrick.
1 27-horsepower engine operating the crusher.
1 "E" Ingersol-Sergeant drill.
1 10-inch by 18-inch Reliance crusher (jaw type), bins with 35 tons capacity.
1 Guy derrick.

Mr. Guy Bonney was Resident Engineer on this contract.

FINAL REPORT ON CONTRACT No. 34.

Closing East Relief Opening.

The west relief opening having been closed by the city forces, the entire flow of the Gunpowder was passing through the east relief opening. This was ample, however, as the river was very low and had been for months, the entire flow of the stream being sent to Baltimore to supply the city's needs, no surplus whatever being available for storage back of the old dam. The matter of closing had been taken up with the Acting Water Engineer and the Consulting Engineer, but no active steps were contemplated for several weeks, owing to the incomplete condition of some of the city's work within the area to be flooded. However, on August 26, 1914, the Water Department was directed to close this opening at once.

Preparation For Work.

The contract was awarded on September 17, and the work was started by the contractors on the same day; sufficient plant was already on the ground, having been used by the King-Ganey Company on Contract No. 1. The track on the east side was continued across the east retaining wall and was run along the south side of the completed portion of the dam; the track was at elevation 182.5, a trestle being built as shown on the accompanying plan, to the east side of the relief opening. While building the trestle, the contractors were allowed the use of the scow "Mary Ann," belonging to the city, on which is a small hand-operated derrick.

Official Start of Work.

The working time of the contractors started on September 29, 1914. Contract time, 20 days.

Cofferdam.

At the north side of the relief opening, a dam was built as follows:

A gate of 10-inch by 12-inch timbers, used for the closing of the west relief opening, had already been set by the city, the top of which was at elevation 159.5. This was calked at the bottom by a diver. The diving outfit consisted of a diver and two men. They made three trips to the job, their total charge being $150. On top of this gate were set two more gates which had been used in closing the west relief opening. One of these gates was 6 feet 6 inches high and the other 4 feet 4 inches high. On top of the last gate was laid a 14-inch by 14-inch timber, taken from the old

city dredge. The elevation of the top of this finished gate was 171.5. Material was dumped north of this gate to within 2 feet of the top. At the center and for about 8 feet on each side, it was necessary to drive steel sheet piling. These were driven 4 feet north of the gate. The 14 by 14 timber was removed after the work was completed, but the three gates were left in place.

On the north side, 64 feet south of "E" line, a concrete wall, 3 feet thick, was poured (under water) from elevation 155 (the elevation of the bottom of the relief opening), to elevation 164, the elevation of the finished concrete on each side of the relief opening at this point. A concrete cofferdam was then built around the opening, on the concrete at elevation 164.0 to elevation 171.0. The wall was 2 feet thick and 7 feet high. Two-inch pipes were concreted in the wall 5 feet apart, and when the work on the relief opening was finished, dynamite was put into these pipes and the wall blown out to elevation 164.0.

Drainage Gallery.

The drainage gallery was formed through the relief opening, being a continuation of the gallery already in. All forms, bulkheads, etc., were removed from the whole galley.

Gallery Drain.

An 18-inch steel pipe (old dredge pipe) was laid from the gallery through the south form at the west side of the opening, with invert at 155.

Porous Block Drain.

Porous block drains were laid at elevation 175.0 and at elevation 184.0. Those at elevation 151.0 were laid formerly by the other contractors.

Cement.

Four thousand four hundred and seventy-seven bags of Tidewater cement were used, costing $0.42 per bag at Loch Raven.

Owing to the shortness of the job, 24-hour tests on the cement were made at the Loch Raven office. Samples were sent to the Municipal Testing Laboratory, however, for the 7-day tests. In every case both tests showed the cement satisfactory.

Sand and Gravel.

Arundel sand and gravel were used.

Stone.

Limestone from Norris' Loch Raven Quarry.

Dust.

From the city quarry operated by Gatch Brothers. The records gotten from the contractors do not show the cost of sand, gravel, stone and dust, in enough detail to give accurate unit prices of the same.

Concrete.

The first concrete was placed on October 9, 1914, and the last October 18, 1914.

508 cubic yards of 1 :2 :4.
477 cubic yards of 1 :2½ :5.

985 cubic yards, total.
Cost per cubic yard $8.58 (total cost $8,448.97).
Contract price, $12.

Force.

The force of the contractor was about 25 men.
Labor cost .17½ per hour.

Plant.

The following plant was employed:

Rolling Stock—
1 20-ton Vulcan locomotive.
6 flat cars, capacity 30,000 lbs. each.

Lifting and Transporting Plant—
1 Guy derrick, 8 tons.

Hoisting Engines—
1 Lidgerwood, two drum, 20-horsepower.

Pumping Plant—
1 Cameron No. 8, capacity 100 gallons per minute.
2 Worthington, capacity 125 gallons per minute each.
1 25-horsepower Nagle boiler.
1 40-horsepower Nagle boiler.
1 60-horsepower Ames boiler.

Mixing Plant—
1 No. 5 Smith mixer, capacity 48 cubic yards per hour.
1 18-horsepower Troy engine.
1 40-horsepower Nagle boiler.
1 100-horsepower Ames boiler.

Excavating Plant—
1 Clam shell.

The River During Construction.

After the cofferdam on the north side of the relief opening shut off the flow of the river, the flow was taken care of by two 48-inch C. I. pipes, running through the dam. No trouble was experienced

from high water during construction, the weather being exceedingly dry.

The actual work on the relief opening was finished on October 18, 1914, one day ahead of the contract time. The contractors finished cleaning up on November 7, 1914.

COST SHEET.

Closing of East Relief Opening, Contract No. 3½, King Brothers, Contractors.

Item.	Labor.	Material.
Building trestle	$184 69	
Cofferdam	359 78	$357 77
Pumping	205 18	58 98
Excavation of muck in rock bottom of R. O.	40 17	
Handling material at crusher	311 69	117 94
Porous block	9 73	7 20
1:2:4 Concrete	358 97	2,629 38
1:2½:5 Concrete	267 87	2,424 17
Cleaning gallery	143 73	
Removing cofferdam forms and wall	66 00	4 20
Taking down derrick	99 00	
Taking down trestle	96 25	
General expense	340 00	249 81
Totals	$2,483 06	$5,849 45

Labor	$2,483 06
Material	5,849 45
Rental of plant	500 00
Total cost to contractor	$8,832 51

Total Cost to City.

Final estimate	$11,820 00
Material furnished by the city	464 74
City labor	100 50
Engineering	144 00
Inspection	60 00
Transportation	10 00
Total	$12,599 24
City credits 660 tons stone, at $1.20	792 00
Total cost to city	$11,807 24

ANNUAL REPORT FOR 1914 ON CONTRACT No. 35.

Road No. 4.

To complete the road system being built by the city, surveys have been made, and plans and specifications have been partially prepared for a road between the Dulaney Valley and Sweet Air

Turnpike, near the point at which Road No. 3 enters it, and Bridge No. 2.

The location of a portion of this road is still undetermined, owing to a question which has arisen between the County Commissioners and the City Solicitor's office. No right of way has yet been obtained for this road except between the Jarrettsville road and Bridge No. 2.

FINAL REPORT ON CONTRACT No. 36.

Valves for Contract No. 26.

There were two valves to be furnished by the city in connection with Contract No. 26, a 42-inch valve with 6-inch bypass, and a 36-inch valve with 6-inch bypass. The contract was awarded to the Rensselaer Valve Company of Troy, N. Y., on December 30, 1914. The contract price was $440 for the 42-inch and $325 for the 36-inch.

ANNUAL REPORT FOR 1914 ON CONTRACT No. 37.

Lining the Gunpowder Tunnel.

In order to make the tunnel between Loch Raven and Montebello tight under the increased head due to the erection of the high dam, Messrs. Freeman and Stearns, Consulting Engineers, recommended that the first 5,000 feet of the tunnel be lined.

Owing to the shortage of water, this work could not be undertaken until the dam was completed and filled.

Plans and specifications had long been prepared for this work, and as soon as the dam was closed it was hoped that the work could be let. The water supply remained low, however, for some weeks after the closure was completed, and it was not until December 9, 1914, that this contract was let. Messrs. C. B. Clark & Company of Baltimore, were the successful bidders, the contract price being $67,416.96.

Due to the fact that the water in the new lake was raised only to elevation 192.0, and to the short time which remained in which to do the work (for the new Filtration Plant cannot be put into continuous operation until this work is completed), the Consulting Engineer, Mr. Ezra B. Whitman, decided to line only a portion of the tunnel at this time. The contract was let, therefore, for only 2,000 feet, about 500 feet adjacent to the Loch Raven Gate House, and 1,500 feet under Mine Bank Run Valley.

The plans call for a concrete lining, 8 inches minimum thickness, reinforced with 1-inch diameter deformed circumferential bars

spaced 5 inches center to center and held in place by 12 ¾-inch diameter longitudinal bars equally spaced.

An underdrain of cast-iron pipe is shown. Alternate bids were invited in such a manner as to permit the contractor to use a different method for lining and underdrain, subject to the approval of the Engineer.

A detailed account of this work will be given in the 1915 report.

Mr. Guy Bonney will be Resident Engineer on this contract.

FINAL REPORT ON CONTRACT No. 40.

Temporary Frame Gate House Superstructure

Inasmuch as the Engineer's plans for the high dam were abandoned, and the structure brought only to elevation 188.0 on crest and 202.0 on deck, it was impracticable to carry the Gate House substructure above elevation 202.0.

As, however, the efficient operation of the Filter Plant and preservation of an adequate storage lake would, it was believed, shortly require further construction, it was deemed unwise to erect a permanent Gate House superstructure; a temporary frame superstructure was, therefore, erected to protect the operating machinery.

Plans were drawn up by Mr. E. H. Eardley, the Water Department Architect, and bids were opened December 6, 1915; the contract being awarded to Henry S. Ripple & Company, for $1,790.

The work was done in a satisfactory manner and completed on time.

FINAL REPORT ON WORK DONE BY CITY FORCE.

Intake.

In the early summer of 1914, the Water Engineer, acting upon the advice of Mr. Geo. W. Fuller, Consulting Engineer, directed that plans be prepared for an intake at the north side of the new Gate House, so that water could be drawn from either the top or the bottom stratum of the lake. It was at first intended to make this of wood, and plans were prepared. Ultimately it was decided to build this of reinforced concrete. Plans were prepared, the work authorized and the materials ordered. The stone was purchased from the sub-contractor operating the city's quarry. North of the Gate House, the intake rested on a rock foundation, but at the east side of the Gate House the rock fell away rapidly, marking the erosion of an ancient channel of the Gunpowder, and here spread foundations and reinforcement were used to prevent settlement and fracture. Horizontal struts were carried between these

spread foundations to prevent inward movement should the exterior of the inlet later become burdened with silt. The city's force was used, Messrs. Coulling and Fry being in charge of the night and day shifts. Considerable trouble was experienced with water which, whenever the river increased slightly in height, flooded the site. A dam was built to protect a portion of the work, so that progress could be made here when high water prevented access to the other portion.

The order to close the east relief opening, coming before it was expected, it became necessary to push the men to the limit, as it was feared that with the opening closed, the two 48-inch pipes would be inadequate to pass an increased flow, and the intake work might have to be abandoned.

On Sunday, September 20, the men refused to come out, and preparations were made at once to supply their places so that by Monday morning a new force was on hand and the old one laid off. No further trouble was experienced, and the work was completed on October 23, 1914. The last concrete was placed on September 28.

The equipment consisted of one big and little gasoline mixer, manufactured by the Jaeger Manufacturing Company, of Columbus, Ohio. This was purchased by the city at a cost of $195 plus freight charges of $1.46, and worked admirably.

The quantities and cost of the work are as follows:

COST SHEET.

Gate House Intake.	Labor.	Material.
Concrete	$427 17	$354 95
Handling cement	80 00	
Excavation	296 92	
General expense	133 74	292 72
Sand and stone	391 36	278 11
Forms	590 42	427 05
Steel	166 78	375 75
Earth; dam and pumping	126 63	
Team hire	166 50	
Setting posts	241 47	
Cutting posts for braces	12 88	
Cutting posts and rafting	70 25	
Laying floor	50 37	
48-inch C. I. pipe trench	130 15	
Dressing and grading	12 00	
Rip Rap	37 75	
Removing forms	163 00	
Cleaning trash	1 25	
King-Ganey Contracting Company's bill		25 16

Total labor	$3,098 64
Total material	1,753 74
Boiler	8 00
Excavation for intake paid for on Extra Work Order No. 9, Contract No. 1	339 72
Proportionate cost of mixer	25 00
Total cost to city	$5,225 10

Total number of cubic yards of 1:2:4 concrete placed 195.0.

ANNUAL REPORT ON FENCING.

Work Done by City Forces.

As those roads running through the gorge above Loch Raven contain a number of bad curves, and a spill over the bank would be dangerous, a fence was designed for the protection of these exposed places, which combines with a rustic appearance, sufficient strength to withstand considerable impact. A large quantity of chestnut being available and in a blighted condition, the fence was constructed of peeled chestnut timber about 8 to 12 inches in diameter. The posts, 8 feet center to center, reach a depth of 3 feet below the surface of the ground and the top rail is 3 feet 6 inches above the surface. On the outside of bad curves, the posts are braced on the outside with a heavy inclined strut, which is drift pinned between two heavy horizontal timbers which lie below the ground surface and to which the bottom of the post is drift pinned, so that post, strut and bottom timbers act as a unit and must move as one. A rail along the top pinned to the posts, and a 2-inch by 10-inch plank (oak) on the outside of curves to act as a hubguard, complete the fence. The planks mar the appearance, but are justified by their utility.

The fencing is practically completed, only about 1,000 feet remaining to be done. The total number of feet built was 5,900 at a cost of $3,378.57, or $0.57 per lin. ft.

This includes the cost of getting the timber from the woods and working it into shape.

Mr. W. G. Stone had charge of this construction.

WORK DONE BY THE CITY FORCE.

Clearing.

One of the largest items of expenditure by the city force was clearing the timber and brush from the basin to be flooded. This clearing was to have extended to elevation 240 A. M. T., but was wisely discontinued at 200 A. M. T. A great deal of heavy timber

was felled, consisting largely of sycamore, poplar and willow, and the slashings were either sold to neighboring farmers or burned. Much of the timber was inaccessible, and was accordingly left where it fell, only a few hundred dollars being realized from such sales as were made.

As the water rose, these logs in the lower lands floated and a few were towed ashore and anchored to stumps to prevent their floating away. The formation of ice put an end to this work and when the water raised and the ice broke up, a small proportion of these logs found their way down the lake and over the dam. The majority were drifted ashore and left high and dry when the water receded. Vast quantities of smaller debris from the fields and lowlands floated and were driven into coves by the wind and left ashore. Most of the latter has been gathered and burned, but much timber remains to be disposed of.

Altogether 100 acres have been cleared, comprising all that will be required for the low dam. Along the banks of the Gunpowder, the cost was excessive, owing to the fact that many of the trees had to be thrown with block and fall to prevent their falling into the water.

The entire cost of clearing is $13,937, or $139.37 per acre.

FINAL REPORT ON MINE BANK RUN BRIDGE.

Work Done by City Forces.

On the River Drive, near Loch Raven Station, Mine Bank Run crosses the road, which was carried on a bridge consisting of wooden floor and handrails, supported on four 20-inch 70 lb. "I" beams, set in rubble masonry abutment walls.

As this bridge was a source of constant maintenance cost, and was in an aged and unsightly condition, it was decided to replace the structure with a reinforced concrete bridge incorporating the abutment walls and beams into the new structure.

Plans were prepared and approved and work was begun November 14, 1914. It was necessary to carry the traffic over the bridge during construction, it being impracticable to pass around the bridge and keep on city property. A narrow bridge carried on posts resting on the stream bed was erected over the south side and clearing it, and the work proceeded without grave interruptions, being completed, except for the removal of forms and dressing by December 22, 1914. It presents an attractive appearance and will probably cost nothing in the future for maintenance.

The concrete was placed with a "Big and Little" gasoline mixer of one-sixth cubic yard capacity.

Messrs. J. O. B. Coulling and Edgar S. Fry had direct charge of the construction.

STATEMENT OF COSTS—MINE BANK RUN BRIDGE.

Concrete Materials.

(31 cubic yards in entire bridge.)

33.1 Tons of crushed stone used, at $1	$33 13
13.6 Cubic yards of sand used, at $1.17	15 91
50 Barrels of cement, at $1.20	60 00
2,045.25 Lbs. of steel reinforcement, at $0.0185	38 80
Freight on steel	1 06
3.19 Feet M. B. M. form lumber, at $25	89 25
381 Lin. ft. chanfer strip, at $0.01	3 81
200 Lbs. of bale wire for forms, at $0.01	2 00
1 Quart lubricating oil for mixer	15
2 Gallons of gasoline for mixer	32
72 Lbs. nails from Corbin, at $0.04	2 88
Hauling all of the above	32 50
Total material for all concrete	$279 91
Cost of material for 1 cubic yard concrete	9 03

Labor, Mixing and Placing, Etc.

Forms	$295 38
Mixing and placing	119 12
Placing steel	38 38
Dressing concrete surfaces	16 00
Total cost for concrete	$468 88
Total cost for 1 cubic yard	15 11
Total cost of 1 cubic yard, including labor and material per yard	24 14

Temporary Crossing.

Material from King-Ganey	$7 80
Sharpening drills	75
Labor on temporary crossing	34 49
Cutting and refitting stone parapets	56 91
Miscellaneous items	71 99
Total	$171 94
Total cost of bridge without monthly labor	$920 73

Labor of Monthly Men on Bridge.

1 Man, 2 months, at $65 per month	$130 00
1 Man, 1 month, at $90 per month (acting foreman)	90 00
Total	$220 00
Total cost of labor and material, $920.73, plus $220	$1,140 73
Proportionate cost of mixer	25 00
Total cost to city	$1,165 73

FINAL REPORT ON ROAD No. 5.

Grading—Work Done By City Force.

To give an outlet to the people using the Jarrettsville Pike, Road No. 5 was constructed in conjunction with Bridge No. 2, following the old Merriman Mill Road from Bosley Post Office for 5,300 feet, from which point the city constructed a new road bed to Bridge No. 2, and from Bridge No. 2 up "Manns Hill" to the gate at Manns entrance.

Authority to proceed with the fill at the west end of Bridge No. 2 was not received until June 17, 1914, and a force of wheeled scrapers, wagons and carts was put to work at once and the work pushed with all possible speed. In fact, so great was the haste to complete this work, that the Engineer, in response to frequent urgings, worked a force larger than was economically justified, running up the cost somewhat and producing a rather spongy fill. However, it was completed on September 25, 1914, 16,000 cubic yards having been moved. The earth was taken from borrow pits, and from two cuts, one on the temporary road, connecting with the Merriman Mill Road, and one on the permanent location. The borrow pits furnished 10,000 cubic yards, the cut on the temporary road 2,700 cubic yards of earth, and the cut on the permanent location 3,300 cubic yards, rock being struck in the latter cut, rendering its abandonment and the opening of the new borrow pits necessary.

The entire work on this road, except the surfacing, was done by city labor, and the entire cost was $15,935.55, of which $9,517.44 is chargeable to the large fill at the west end of Bridge No. 2.

Teams were hired in the neighborhood at the following rates:

Two-horse wagon and driver $5.

One-horse cart and driver $3.50.

Wheeled scraper and driver $5.

Plow team and driver $10.

Snatch team and driver $7.50, for a nine-hour day.

Laborers were employed at 25 cents per hour.

At the east end of Bridge No. 2 there was a hard rock cut and this ran up the cost at this point. The remainder of the material was earth and clay.

REPORT OF FILTRATION DIVISION

BALTIMORE, MD., December 31, 1914.

MR. R. L. CLEMMITT, *Acting Water Engineer,*
City Hall.

DEAR SIR—I am sending you herewith a statement of work done by the Filtration Division during the year 1914. Plans and specifications have been prepared for seven different contracts, six of which were for construction and aggregated $403,460.85. The other contract was for furnishing electric power, and was awarded to the Consolidated Gas Electric Light and Power Company of Baltimore, Md., at the rate of 17 cents per kilowatt for demand and 55 mills per kilowatt-hour for power actually consumed in addition to demand, which brings the total price up to ¾ of a cent, or slightly more, per kilowatt-hour. Work on most of the other contracts has progressed very satisfactorily, but there has been some delay, which has extended more or less to all the contracts, due to the fact that the construction plant of C. W. Lane & Company was in the way of the other contractors. The following contracts are either completed or practically complete.

Contract No. 4—Filtered Water Reservoir.

Contract No. 12—Furnishing Sluice Gates.

Contract No. 13—Furnishing Valves.

Contract No. 14—Furnishing Cast-iron Pipe.

Contract No. 21—For Construction of Pumping Station, Head House, Aerator Gate House and Main Water Conduit.

Contract No. 11—For the construction of the filters, basins and grading, is nearing completion. Structurally part of the filters and Wash Water Building is completed and the coagulating basin with the exception of one section of the center passage is completed. About one-third of the mixing basin remains to be done and there is considerable grading of grounds and some miscellaneous work to be done before the contract is completed.

Contract No. 19—For furnishing of low-lift pumping machinery is under way. The traveling crane is in place and the 30,000,000 gallon pump. Other pumps will soon be completely erected.

Contract No. 20—This contract is for the electric power equipment and for furnishing motors for operating the pumping machinery. The motors and transformers have all been manufactured at the factory and have been ordered shipped. This contract will be pushed to completion at an early date.

Contract No. 22—For filter equipment was awarded to the American Water Softener Company of Philadelphia, Penna., for the sum of $156,833.85. This contract includes the placing of all the cast-iron pipe and valves in the filter gallery and Head House, also the Wash Water Building, together with all the miscellaneous cast-iron pipe in connection with the Filter Plant. It includes miscellaneous gauges, chemical controlling devices, filter rate controllers, placing of the filter strainer system and filter materials. This contract is well under way, practically all the piping having been placed in the filters and under the filters, all the ridge blocks and strainer system being in place.

Contract No. 23—This contract was awarded to the Consolidated Engineering Company for $201,599. This contract included the superstructures of eight different buildings, together with a large amount of special machinery to be installed in these buildings. The Pumping Station is structurally complete and has the roof on and the plastering practically done. The Head House has the brick work all laid, steel roof trusses in place and the concrete roof is now being placed. The filter building has the major portion of the brick work done and some of the concrete roofing in place. The Aerator Gate House has the brick work and the structural steel work in place. If the weather permits, this work will be well advanced by the spring.

Contract No. 27—This contract was awarded to the Enterprise Steam & Hot Water Heating Company for the sum of $16,244, and includes three complete heating systems. One to be installed in the Wash Water Building, for heating that building and the filters, another plant for heating the Head House, Pumping Station and Center Passage and another for heating the Upper Service Pumping Station. The boilers are erected in the Head House, Filter Building and considerable piping is in place and most of the radiators have been delivered at the site of the work.

Contract No. 29—This contract has recently been awarded to the D. M. Andrews Company, for building the Upper Service Pumping Station in Druid Hill Park, for the sum of $15,600, and work has just began on excavation.

Bids were opened on December 30 for Contracts 30 and 31. R. D. Wood & Company of Philadelphia, Penna., were the lowest bidders on Contract No. 30, for pumping machinery for the Upper Service Pumping Station, their price being $3,697, and the Westinghouse Electric & Manufacturing Company were the lowest bidders on Contract No. 31, for electric power equipment, their price being $13,204. The attached tabulation shows all the contracts awarded by the Filtration Division since the beginning of the year and the approximate percentage of work done to date.

Yours very truly,

JAMES W. ARMSTRONG,
Engineer Filtration Division.

TABULATION OF CONTRACTS AWARDED FOR WORK ON FILTRATION DIVISION TO DECEMBER 31, 1914.

Contract No.	Contractors.	Contract Price.	Amt. Earned to Dec. 31, 1914	Percentage Work Done.	Payments.	Nature of Work.
4	C. W. Lane & Co.	$171,748 60	$160,917 30	Complete...	$144,825 57	Filtered Water Reservoir.
9	Malcolm W. Hill	11,555 00	11,555 00	100.00	11,555 00	Railroad.
11	Claiborne-Johnston	396,895 65	366,853 30	92.43	330,167 97	Filters, Basins and Grading.
12	Coffin Valve Co.	16,356 00	16,641 00	100.00	16,641 00	Sluice Gates.
13	Columbian Iron Works	27,234 56	25,344 85	93.06	25,344 85	Valves.
14	Glamorgan Pipe & Foundry Co.	44,594 00	45,641 26	.....	5,641 26	Cast-iron Pipe and Specials.
18	Peddicord Transfer Co.	.....	1,814 79	.....	1,814 79	Drayage.
19	Southwark Foundry & Mach. Co.	22,809 00	4,820 00	21.13	4,820 00	Pumping Machinery.
20	Westinghouse Elec. & Mfg. Co.	26,800 00	4,656 00	17.37	4,656 00	Electric Equipment.
21	Elkan-Tufts Co.	94,610 63	106,170 80	Complete...	95,553 72	Head House Pumping Station.
22	American Water Softener Co.	156,832 85	54,080 20	34.48	48,672 18	Filter Equipment.
23	Consolidated Engineering Co.	201,599 00	70,088 20	34.77	63,079 38	Superstructures, Buildings.
27	Enterprise Steam & Hot Water Heating Co.	16,224 00	5,586 50	34.43	5,027 85	Heating Systems.
	Totals	$874,169 20	.....	.....	$797,799 57	

APPENDIX A

FILTRATION DIVISION

BALTIMORE, August 21, 1915.

MR. JAMES W. ARMSTRONG,
Engineer Filtration Division.

DEAR SIR—I respectfully submit herewith a report of the work done in the biological laboratories of the Water Department during the year ending December 31, 1914.

The principal work consisted, as heretofore, in daily bacteriological analyses of samples of water from Lake Montebello influent and effluent, Lake Clifton effluent, and Lake Roland, Hampden Reservoir and Druid Lake effluents. Daily samples were also taken from city taps, with results substantially the same as obtained from the storage reservoirs; but the routine examination of Lake Ashburton, Guilford Reservoir and High Service Reservoir were discontinued, although occasional microscopic examinations were made for the purpose of furnishing information of any excessive growth of microscopic organisms of algae, and it was found necessary once in August to apply a treatment of copper sulfate to the Jones Falls supply.

Determinations of ammonia, nitrites and nitrates in the chemical samples were discontinued, as the information thereby furnished is now of little value, and the time was used in making determinations of suspended residue, alkalinity and free carbon dioxide. The bacteriological examinations included, as usual, enumeration of the bacteria growing at 20°C. (68°F.) and those growing at 37°C. (98° F.). The work of isolating members of the B. coli group was greatly broadened, especial attention being given to a study of these organisms, and we believe that we have devised a more reliable procedure for the classification of the members of this group, which are used as an index of the quality of the water and of the efficiency of purification. Thirty-nine thousand tubes of culture media were made up for use in the bacteriological work.

Results of the bacteriological and chemical analyses are shown in the appended tables. Analyses of the mineral residue in the

Gunpowder River water were made each month and showed the following average:

Silica (as SiO_2)	(parts per million)	10.3
Iron and alumnia (as $Fe_2O_3+Al_2O_3$)	(parts per million)	6.7
Calcium (as Ca)	(parts per million)	23.4
Magnesium (as Mg)	(parts per million)	2.8

In addition to the routine work, occasional analyses were made of filter sand, paints, metals, etc., and analyses were made of all chloride of lime received as well as all solutions of this chemical, mixed daily or several times a day, which were applied to the water.

The purification of the water was continued as during the previous year. Aluminum sulfate was applied at Lake Montebello influent during 109 days, and calcium hypochlorite was applied continuously at Lake Montebello and Lake Roland effluents. The amounts of aluminum sulfate applied were governed by the turbidity of the water as shown by daily examinations, and the amounts of calcium hypochlorite applied were changed several times during the year whenever the bacteriological examinations indicated that such changes were necessary. The average maximum and minimum amounts of the chemicals applied each month are shown in one of the tables.

As a result of this treatment, the average number of bacteria of the B. coli group in the Gunpowder River supply was reduced from 20.1 per cubic centimeter in Lake Montebello influent to 0.056 per cubic centimeter in Lake Clifton effluent, which is a reduction of 99.7 per cent. The reduction in the Jones Falls supply was not as satisfactory, being from 14.4 per cubic centimeter in Lake Roland effluent to 1.001 per cubic centimeter in Druid Lake effluent, or 93.0 per cent., but the plant was operated at its maximum capacity.

Yours respectfully,

J. Bosley Thomas, *Analyst.*

CHEMICALS APPLIED AND RESULTS OF ANALYSES SHOWING QUALITY OF WATER.

Months.	Grains per Gallon, Aluminum Sulfate. Montebello Influent.			Parts per Million, Available Chlorine. Montebello Effluent.			Lake Roland Effluent.			Alkalinity. Montebello Influent.				Montebello Effluent.				Clifton Effluent.				Roland Effluent.				Hampden Effluent.				Druid Effluent.				Free Carbon Dioxide. Montebello Influent.		Montebello Effluent.		Clifton Effluent.	
	Days Applied.	Average.	Maximum.	Minimum.	Average.	Maximum.	Minimum.	Average.	Maximum.	Minimum.	Tests.	Average.	Maximum.	Minimum.	Tests.	Average.	Maximum.	Minimum.	Tests.	Average.	Maximum.	Minimum.	Tests.	Average.	Maximum.	Minimum.	Tests.	Average.	Maximum.	Minimum.	Tests.	Average.	Maximum.	Minimum.	Tests.	Average.	Tests.	Average.	Tests.	Average.
January	23	.696	.735	.642	1.5	1.5	1.5	2.0	2.0	2.0																														
February	0				1.5	1.5	1.5	2.0	2.0	2.0	5	47	52	42	4	44	46	38	5	46	50	44	1	95			1	88			1	76								
March	0				1.5	1.5	1.5	2.0	2.0	2.0	14	41	44	38	23	39	46	38	26	42	48	38	4	85	98	67	4	85	92	63					14	2.5	24	2.4	18	2.0
April	0				1.5	1.5	1.5	2.0	2.0	2.0	10	40	42	37	11	40	43	37	24	40	42	38	4	75	76	73	5	72	73	71	5	72	73	71	10	2.3	11	2.2	25	2.0
May	1	1.232			1.6	2.0	1.5	2.0	2.0	2.0	14	42	46	39	8	43	46	39	25	43	47	39	3	77	81	73	4	75	80	70	4	71	73	68	14	1.8	8	1.6	26	1.6
June	19	.943	1.130	.840	1.6	2.0	1.5	2.1	2.5	2.0	15	43	47	23	12	42	45	39	24	43	45	38	4	87	92	82	4	86	89	83	4	78	79	73	17	1.8	13	2.6	26	1.9
July	17	1.232	2.065	.721	1.7	2.5	1.5	2.5	2.5	2.5	19	46	51	36	15	40	45	35	26	42	51	38	5	94	103	87	5	83	97	98	5	86	89	82	2	1.3	2	2.8	2	2.0
August	0				1.9	2.0	1.5	2.5	2.5	2.5	24	50	57	42	25	44	48	40	25	45	49	43	2	96	101	90	4	95	106	84	4	74	84	52	4	1.7	3	2.8	2	2.0
September	1	.672			2.0	3.0	1.0	2.5	2.5	2.5	22	55	60	48	7	51	57	43	24	51	58	43	4	91	102	84	4	87	94	78	4	83	87	80	2	1.3	1	1.0	2	1.5
October	28	.751	1.049	.656	1.5	2.5	1.5	2.5	2.5	2.5	25	55	60	44	23	52	57	47	26	52	57	46	4	103	105	101	4	100	103	96	4	85	88	82								
November	18	.604	.864	.365	1.7	2.5	1.5	2.5	2.5	2.5	17	50	55	40	19	49	52	47	24	51	54	47	4	94	103	81	4	99	103	88	4	90	81	89								
December	2	.846	.892	.800	1.9	2.0	1.5	2.5	2.5	2.5	4	48	51	40	4	45	50	36	4	46	51	37	5	87	97	80	5	88	97	82	5	87	89	82								

RESULTS OF ANALYSES SHOWING QUALITY OF WATER.

Months.	Suspended Residue (Averages). Montebello Influent.				Montebello Effluent.				Clifton Effluent.				Lake Roland Effluent.				Hampden Effluent.				Druid Effluent.				Oxygen Consumed. Montebello Influent.		Montebello Effluent.		Clifton Effluent.		Roland Effluent.		Hampden Effluent.		Druid Effluent.	
	Tests.	Total.	Ignited.	Loss.	Tests.	Total.	Ignited.	Loss.	Tests.	Total.	Ignited.	Loss.	Tests.	Total.	Ignited.	Loss.	Tests.	Total.	Ignited.	Loss.	Tests.	Total.	Ignited.	Loss.	Tests.	Averages.	Tests.	Averages.	Tests.	Averages.	Tests.	Averages.	Tests.	Averages.	Tests.	Averages.
January																																				
February	5	11	5	6	4	8	4	4	4	13	6	7	1	26	13	13	1	15	12	3	1	13	6	7	2	1.5	1	1.2	1	1.3						
March	14	17	10	7	21	11	6	5	26	12	7	5	4	22	15	7	4	16	9	7	4	13	6	7	14	2.5	24	1.8	24	1.8	3	2.8	3	2.3	3	3.7
April	10	24	17	7	10	10	4	6	27	14	6	8	3	18	12	6	4	25	17	8	4	16	8	8	10	2.2	11	1.4	24	1.6	4	2.4	5	2.3	4	2.9
May	14	28	19	9	8	9	4	5	26	14	8	6	3	22	12	10	4	23	13	10	4	8	4	4	11	3.1	8	2.3	24	2.1	3	3.3	4	2.5	4	2.1
June	14	65	44	21	14	16	8	8	26	13	6	7	4	14	5	9	4	15	8	7	4	9	4	5	17	2.5	14	1.5	26	1.5	4	2.6	4	2.4	4	2.1
July	20	90	60	30	14	20	10	10	26	22	11	11	5	33	19	14	5	24	11	13	5	16	4	12	19	3.2	15	1.7	26	1.7	5	3.8	5	3.1	5	2.5
August	24	80	55	25	26	17	9	8	26	16	8	8	3	55	30	25	5	18	7	11	5	13	6	7	24	3.1	25	1.8	23	1.7	2	5.3	4	3.6	4	2.0
September	20	44	32	12	7	12	4	8	21	17	9	8	3	17	9	8	3	11	5	6	3	10	5	5	22	2.3	7	1.7	21	1.6	4	4.0	4	3.6	4	2.7
October	25	42	31	11	23	13	6	6	26	12	6	6	4	16	10	6	4	11	5	6	4	7	4	3	25	2.3	23	1.5	26	1.4	4	3.1	4	2.5	4	1.9
November	17	28	19	9	19	12	6	6	24	11	5	6	4	18	12	6	4	18	10	8	4	8	3	5	17	2.8	19	2.0	24	1.5	4	4.0	4	2.7	4	2.3
December	4	19	11	8	5	16	8	8	5	13	6	7	5	15	8	7	5	15	8	7	5	12	5	7	4	2.5	5	2.3	5	2.1	5	3.1	5	3.1	5	1.4

RESULTS OF ANALYSES SHOWING QUALITY OF WATER.

Turbidity.

Months.	Montebello Influent.								Montebello Effluent.						Clifton Effluent.					
	No. of Tests.	Averages.	No. of Times Between— 5 and 10.	10 and 20.	20 and 50.	50 and 100.	100 and 200.	Above 200.	No. of Tests.	Averages.	No. of Times Between— 0 and 5.	5 and 10.	10 and 20.	Above 20.	No. of Tests.	Averages.	No. of Times Between— 0 and 5.	5 and 10.	10 and 20.	Above 20.
January	23	19	1	16	6	....	....	....	26	8	2	22	2	....	26	7	4	22	....	....
February	25	15	11	12	2	....	....	....	23	8	....	20	3	....	23	8	....	23	....	....
March	20	20	3	10	7	....	....	....	23	10	....	10	13	....	26	11	....	14	12	....
April	11	21	1	5	5	....	....	....	11	7	3	8	....	....	25	12	....	11	13	1
May	14	28	....	6	7	1	....	....	7	6	4	2	1	....	26	14	....	7	15	4
June	21	110	....	....	1	14	4	2	14	18	1	6	4	2	26	13	....	10	14	2
July	22	140	....	....	....	8	11	3	18	15	....	4	13	1	26	21	....	....	19	7
August	29	90	....	....	10	11	7	1	26	11	1	17	7	1	26	14	....	2	17	2
September	26	42	....	....	20	6	....	....	8	7	7	1	7	....	26	13	....	4	22	....
October	29	58	....	....	10	19	....	....	25	8	1	21	3	....	26	9	....	23	3	....
November	20	30	2	7	8	3	....	....	19	7	....	18	1	....	25	8	....	22	1	....
December	12	12	4	8	....	....	....	....	17	12	....	9	6	2	23	11	....	18	6	1

Apparent Color.

Months.	Montebello Influent.								Montebello Effluent.							Clifton Effluent.						
	No. of Tests.	Averages.	No. of Times Between— 5 and 10.	10 and 20.	20 and 50.	50 and 100.	100 and 200.	Above 200.	No. of Tests.	Averages.	No. of Times Between— 0 and 5.	5 and 10.	10 and 20.	20 and 50.	Above 50.	No. of Tests.	Averages.	No. of Times Between— 0 and 5.	5 and 10.	10 and 20.	20 and 50.	Above 50.
January	23	44	....	7	9	6	1	....	26	12	....	9	17	....	....	26	12	....	8	18	....	....
February	25	27	1	19	14	1	....	....	23	14	....	3	19	1	....	23	15	....	....	21	....	....
March	20	32	....	7	10	13	....	....	23	19	....	4	10	9	....	26	19	....	3	16	....	....
April	11	36	....	1	9	1	....	....	11	12	....	3	8	....	....	25	20	....	....	18	6	1
May	14	42	....	4	8	2	....	....	7	13	....	3	4	....	....	26	23	....	....	13	12	1
June	21	170	....	....	....	3	14	4	14	30	....	3	6	3	2	26	23	....	....	16	8	1
July	22	220	....	....	....	1	8	13	18	27	....	....	5	12	1	26	39	....	....	1	20	5
August	29	140	....	....	1	11	9	8	26	20	....	2	18	6	....	26	25	....	....	12	13	1
September	26	85	....	....	....	21	5	....	8	11	....	1	7	....	....	26	26	....	....	7	19	....
October	29	110	....	....	8	21	....	....	25	14	....	2	22	1	....	26	16	....	....	24	2	....
November	20	55	....	3	8	7	2	....	19	13	....	5	14	....	....	23	13	....	1	22	....	....
December	12	22	....	8	4	....	....	....	17	22	....	....	11	5	1	25	19	....	....	20	5	....

RESULTS OF ANALYSES SHOWING QUALITY OF WATER.

Turbidity.

Months.	Roland Effluent.							Hampden Effluent.							Druid Effluent.					
	No. of Tests.	Averages.	No. of Times Between— 5 and 10.	10 and 20.	20 and 50.	50 and 100.	Above 100.	No. of Tests.	Averages.	No. of Times Between— 0 and 5.	5 and 10.	10 and 20.	20 and 50.	Above 50.	No. of Tests.	Averages.	No. of Times Between— 10 and 20.	5 and 10.	10 and 20.	20 and 50.
January	26	50	....	9	8	4	5	26	21	....	....	8	16	2	26	10	1	19	6	....
February	23	26	....	11	10	2	....	23	35	....	....	6	13	4	23	17	....	....	23	....
March	26	22	....	15	11	....	....	26	21	....	....	14	12	....	26	13	....	12	12	2
April	21	20	1	10	10	....	....	25	30	....	....	5	20	....	25	20	....	....	16	9
May	17	25	....	6	11	....	....	25	36	....	....	6	19	....	25	11	1	9	14	1
June	26	17	1	23	2	....	....	26	18	....	3	20	3	....	26	8	2	21	3	....
July	26	38	....	6	15	5	....	26	18	....	2	19	5	....	26	11	1	16	8	1
August	30	44	....	5	9	6	....	22	21	....	3	8	11	....	22	10	1	12	9	....
September	21	14	12	4	5	....	....	21	9	1	15	5	....	....	21	6	7	14	....	....
October	26	16	9	11	6	....	....	25	12	....	14	10	1	....	26	7	3	23	....	....
November	23	22	....	2	9	12	....	23	20	....	....	13	10	....	25	7	2	23	....	....
December	25	12	12	6	19	....	....	25	11	....	7	18	....	....	25	6	5	20	....	....

Apparent Color.

Months.	Roland Effluent.								Hampden Effluent.							Druid Effluent.						
	No. of Tests.	Averages.	No. of Times Between— 5 and 10.	10 and 20.	20 and 50.	50 and 100.	100 and 200.	Above 200.	No. of Tests.	Averages.	No. of Times Between— 5 and 10.	10 and 20.	20 and 50.	50 and 100.	Above 100.	No. of Tests.	Averages.	No. of Times Between— 5 and 10.	10 and 20.	20 and 50.	Above 50.
January	26	99	....	1	8	6	9	2	26	59	....	2	8	14	1	26	16	3	19	4	....
February	23	54	....	....	16	4	3	....	23	68	....	....	11	8	4	23	32	....	....	23	....
March	26	41	....	3	16	7	....	....	26	42	....	4	13	9	....	26	24	....	12	14	....
April	21	36	....	3	16	2	....	....	25	54	....	....	11	14	....	25	36	....	....	24	1
May	17	39	....	3	13	2	....	....	25	29	....	1	22	2	....	25	19	....	16	3	....
June	26	29	....	4	22	....	....	....	26	33	....	4	20	2	....	26	14	3	21	2	....
July	26	34	....	....	9	13	4	....	26	42	....	4	18	4	....	26	23	....	15	11	....
August	30	75	....	....	7	8	5	....	22	42	....	4	11	7	....	22	23	....	11	11	....
September	21	29	1	7	11	2	....	....	21	20	1	10	10	....	....	21	11	7	14	....	....
October	26	31	1	7	15	3	....	....	25	24	....	9	15	1	....	26	11	12	14	....	....
November	23	43	....	3	6	14	....	....	23	43	....	7	16	....	....	25	11	9	16	....	....
December	25	21	....	11	14	....	....	....	25	22	1	9	15	....	....	25	10	16	9	....	....

RESULTS OF ANALYSES SHOWING QUALITY OF WATER

Bacteria per C. C. Growing at 37° C.

Lake Roland Effluent.

Months	No. of Tests	Averages	No. of Times Between — 10 and 20	20 and 50	50 and 100	100 and 200	200 and 500	500 and 1,000	1,000 and 10,000	Above 10,000
January	0									
February	0									
March	0									
April	18	170	1		5	4	1	1		
May	17	330		4		2	5	1	3	
June	24	620	2	11	3	1				
July	21	2,600			1	1	4	1	4	1
August	19	2,800			1	1	1	5	11	1
September	20	440		1		1	4	12	1	
October	26	250		15		1		9	1	
November	20	470			1	5	12			
December	7	240								

Hampden Effluent.

Months	No. of Tests	Averages	No. of Times Between — 10 and 20	20 and 50	50 and 100	100 and 200	200 and 500	500 and 1,000	1,000 and 10,000	Above 10,000
January	0									
February	0									
March	0									
April	18	90	2	2	0	0	1	3		
May	13	140		1	1	0	0	0	1	
June	24	65		3	8	3	3	2	1	
July	17	200		1	3	10	1	1	1	
August	19	120	3		2	3	7	2	1	1
September	23	85		1	1	1	9	10		
October	26	80	1	1	6	11	1	4		
November	20	150			2	11	3	1	1	
December	7	9,000				1	2	1	1	1

Druid Effluent.

Months	No. of Tests	Averages	5 and 10	10 and 20	20 and 50	50 and 100	100 and 200	200 and 500	500 and 1,000	Above 1,000
January	0									
February	0									
March	0									
April	18	70		2	7	9				
May	16	30	3	4	5	2	1			
June	25	30	6	4	3	1				
July	21	220	4	5	4	4	3			
August	19	180	1	1	4	4	3	5	1	
September	18	220			2	4	3	1		
October	26	85		4	7	7	1	1		
November	20	30	13	8	2	2				
December	15	23	4	9	10	1				

Lake Roland Effluent.

Months	No. of Tests	Averages	No. of Times Between — 100 and 200	200 and 500	500 and 1,000	1,000 and 10,000	10,000 and 100,000	Above 100,000.
January	25	90,000				2	19	4
February	21	25,000				5	15	1
March	22	44,000				3	19	
April	19	55,000			1	15	3	
May	16	21,000		1	0	2	12	1
June	23	34,000				15	16	
July	21	21,000	1	1	0	1	8	9
August	19	75,000					6	5
September	20	26,000		1		2	5	2
October	26	4,200			4	19	3	
November	20	16,000					6	14
December	15	28,000					2	2

Bacteria per C. C. Growing at 20° C.

Hampden Effluent

Months	No. of Tests.	Averages.	No. of Times Between — 10 and 20.	20 and 50.	50 and 100.	100 and 200.	200 and 500.	500 and 1,000.	1,000 and 10,000.	10,000 and 100,000.	Above 100,000.
January	25	3,100	3	6	1	1	1	4	7	2	
February	21	220		12	5	3	10	1			
March	21	1,180			5	4	1				
April	21	120,000				4	1	4	1	6	
May	24	90,000					1	19	4		
June	23	24,000					9	17	1		
July	21	14,000					14	6			
August	21	17,000					8	13			
September	18	22,000					6	12			
October	26	10,000					12	14			
November	21	13,000		1	1	5	13				
December	15	15,000			1	1	4	19			

Druid Effluent

Months	No. of Tests	Averages	No. of Times Between — 20 and 50.	50 and 100.	100 and 200	200 and 500.	500 and 1,000	1,000 and 10,000	10,000 and 100,000	Above 100,000
January	25	1,400	1	0	1	6	6	11		
February	20	3,900				2	1	16	1	
March	26	3,600			1	1	1	19	4	
April	20	0	0	0	0	0	0	11	9	
May	17	1	0	1	4	8	13	8	1	
June	25	0	0	1	3	10	15			
July	21	1	1	1	1	5	16	17		
August	19	3	0	1	1	4	8	17		
September	21	7	1	1	4	8	12	18	20	
October	26	6	1	2	1	1	4	1	1	
November	24	1	0	1	8	15	20	23	24	
December	25	4	1	2	2	5	12	2		

Lake Roland Effluent.

Months	No. of Tests	Averages	No. of Times Present. 20 and 50.	50 and 100.	100 and 200	200 and 500	500 and 1,000	1,000 and 10,000	10,000 and 100,000	Above 100,000
January	25	3	16	25	25					
February	23	0	3	13	22					
March	26	0	0	1	21					
April	25	0	0	3	11					
May	24	1	1	11	17	23				
June	25	0	0	5	10	15				
July	21	0	0	1	14	19				
August	19	0	0	1	7	17	19			
September	21	0	0	1	11	18	20			
October	26	0	0	1	4	11	24			
November	24	0	0	1	6	19	23			
December	25	0	0	1	4	9	14			

Hampden Effluent.

Months	No. of Tests	Averages	No. of Times Present. 20 and 50.	50 and 100.	100 and 200	200 and 500.	500 and 1,000	1,000 and 10,000	10,000 and 100,000	Above 100,000
January	26	0	0	2	6	11				
February	23	1	0	1	3	16	1			
March	26	0	0	1	2	6	24	1		
April	25	1	0	0	1	3	11	9		
May	24	0	0	1	3	8	14	23		
June	25	0	0	1	2	8	14	19		
July	22	0	0	1	2	8	17	21		
August	19	0	0	1	2	7	17	19		
September	20	0	0	1	2	5	12	18	20	
October	26	0	0	1	2	5	11	17	24	
November	24	0	0	1	2	6	12	19	23	
December	25	0	0	1	2	5	12	19	24	

Druid Effluent.

Months	No. of Tests	No. of Times Present. 1 C. C.	10 C. C.	100 C. C.
January	26	0	0	0
February	23	1	0	0
March	26	0	0	0
April	25	1	0	0
May	24	0	0	0
June	25	0	0	0
July	21	0	0	0
August	19	0	0	0
September	21	0	0	0
October	26	0	0	0
November	24	0	0	0
December	25	0	0	0

RESULTS OF ANALYSES SHOWING QUALITY OF WATER

Bacteria per C. C. Growing at 37° C.

Montebello Influent.

Months	No. of Tests	Averages	No. of Times Between — 0 and 5	5 and 10	10 and 20	20 and 50	50 and 100	Above 100	100 and 200	200 and 500	500 and 1,000	Above 1,000
January	0											
February	0											
March	0											
April	5	140	1		1	1						
May	13	900		2		1	1	1	1	1	2	2
June	24	10	7	3	6	4	3	1				
July	17	1,000			1	2	3	3	3	2	2	1
August	19	800	11	1	1	1	1	1	1	1	1	1
September	23	30			1	1	2	2	10	1	1	
October	26	600			1	1	1	1	1	9	11	
November	24	100			1	1	1	1	1	1	1	1
December	7	9,000				1	2	1	1	1	1	1

Montebello Effluent.

Months	No. of Tests	Averages	No. of Times Between — 0 and 5	5 and 10	10 and 20	20 and 50	Above 50
January	0						
February	0						
March	0						
April	5	90	2	2	0	0	1
May	13	140	2	3	1	0	0
June	24	65	2	3	8	3	3
July	17	200		1	3	10	1
August	19	120	3		2	3	7
September	23	85		1	1	1	9
October	26	80	1	1	6	11	1
November	24	150			2	11	3
December	7	9,000				1	2

Clifton Effluent.

Months	No. of Tests	Averages	No. of Times Between — 0 and 5	5 and 10	10 and 20	20 and 50	Above 50
January	0						
February	0						
March	0						
April	5	140	1		1	1	
May	13	900	2		1	1	
June	24	10	7	3	6	4	3
July	17	1,000			1	2	3
August	19	800	11	1	1	1	1
September	23	30			1	1	2
October	26	600			1	1	1
November	24	100			1	1	1
December	7	9,000				1	2

Montebello Influent.

Months	No. of Tests	Averages	No. of Times Between — 500 and 1,000.	1,000 and 10,000	10,000 and 100,000	Above 100,000.
January	15	14,000		9	6	
February	18	7,000		13	5	
March	15	20,000		8	7	
April	11	57,000	1	1	1	
May	11	80,000	1	6	4	4
June	11	12,000		4	5	1
July	11	18,000		8	3	
August	14	15,000		5	1	1
September	22	2,100			1	1
October	24	10,000		1	1	1
November	22	5,000	1	10	1	
December	14	8,000		2	1	1

Montebello Effluent.

Months	No. of Tests.	Averages	No. of Times Between — 50 and 100.	100 and 200	200 and 500.	500 and 1,000.	1,000 and 10,000	10,000 and 100,000	Above 100,000.
January	23	47,000					21	2	
February	20	75,000					15	3	2
March	23	43,000				16	4	3	
April	11	5,000	1		1	1			
May	8	13,000				5	3		
June	14	3,600		2	0	11	1		
July	14	1,500		1	1	5	5		
August	14	2,100		1	1	13	7		
September	22	10,000		1	1	1	8	1	
October	24	10,000	1	1	1	1	8	2	
November	22	1,500	1	6	1	1	8	1	
December	14	60,000				2	3	15	
	15	160,000					2	4	15

Clifton Effluent.

Months	No. of Tests	Averages	No. of Times Between — 0 and 5	5 and 10	10 and 20	20 and 50	50 and 100	100 and 200	200 and 500	500 and 1,000	1,000 and 10,000	Above 10,000
January	26	2	26									
February	24	21		22	2							
March	24	29			24	5						
April	11	110				11						
May	13	1,600				1	3	4	12	5		
June	16	2,000					1	16	1			
July	16	600				2	3	11				
August	16	2,000					2	3	10	1	1	
September	17	700			1	1	1	9	4			
October	24	1,100					1	1	6	4	2	
November	21	700				2	3	7	12	12	1	
December	10	210										

Bacteria per C. C. Growing at 20° C.

Montebello Influent.

Months	No. of Tests	Averages	No. of Times Between — 500 and 1,000.	1,000 and 10,000	10,000 and 100,000	Above 100,000.
January	23	47,000			21	2
February	20	75,000			15	3
March	23	43,000			4	3
April	11	5,000	1			
May	8	13,000			3	
June	14	3,600		2	0	11
July	14	1,500		1	1	5
August	14	2,100		1	1	13
September	22	10,000		1	1	1
October	24	10,000	1	1	1	1
November	22	1,500	1	6	1	1
December	14	60,000				2
	15	160,000				2

Montebello Effluent.

Months	No. of Tests.	Averages	No. of Times Between — 50 and 100.	100 and 200	200 and 500.	500 and 1,000.	1,000 and 10,000	10,000 and 100,000	Above 100,000.
January	26	2	26						
February	24	21		22	2				
March	24	29			24	5			
April	11	110				11			
May	13	1,600				1	3	4	12
June	16	2,000					1	16	1
July	16	600				2	3	11	
August	16	2,000					2	3	10
September	17	700			1	1	1	9	4
October	24	1,100					1	1	6
November	21	700				2	3	7	12
December	10	210							

Clifton Effluent.

Months	No. of Tests	Averages	No. of Times Between — 0 and 5	5 and 10	10 and 20	20 and 50	50 and 100	100 and 200	200 and 500	500 and 1,000	1,000 and 10,000	Above 10,000
January	18	3	12	16	18							
February	18	4	13	15	18							
March	21	1	5	19	21							
April	11	0	1	11								
May	8	2	1	5	7							
June	16	1	4	9	11							
July	16	1	2	8	12	15						
August	16	2	1	8	12	15						
September	18	2	1	11	16							
October	18	1	1	14	16							
November	18	2	1	11	16	17						
December	7	0	1	12	17							
	20	0	1	6	11	20						
	25	0	0	4	8	17	20					
	21	0	0	3	7	15	19					
	10	3	6	7	10							

Isolation of Some Member of B. Coli Group.

Montebello Influent.

Months	No. of Tests	No. of Times Present. 1 C. C.	10 C. C.	100 C. C.
January	23	1	1	0
February	21	0	0	0
March	21	0	0	0
April	11	0	0	0
May	8	2	1	0
June	16	0	0	0
July	16	0	0	0
August	16	0	0	0
September	17	0	0	0
October	18	0	0	0
November	18	0	0	0
December	10	0	0	0

Montebello Effluent.

Months	No. of Tests	No. of Times Present. 1 C. C.	10 C. C.	100 C. C.
January	23	0	0	0
February	23	0	0	1
March	21	0	0	1
April	11	0	0	0
May	8	1	0	0
June	16	0	0	0
July	16	0	0	0
August	16	0	0	0
September	17	0	0	0
October	18	0	0	0
November	18	0	0	0
December	10	0	0	0

Clifton Effluent.

Months	No. of Tests	No. of Times Present. 1 C. C.	10 C. C.	100 C. C.
January	23	0	0	0
February	23	0	0	1
March	21	0	0	1
April	11	0	0	0
May	8	1	0	0
June	16	0	0	0
July	16	0	0	0
August	16	0	0	0
September	17	0	0	0
October	18	0	0	0
November	18	0	0	0
December	10	0	0	0

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